



Cornell
University

ANNOUNCEMENTS

Graduate School
Social Sciences

1968-69

Calendar, 1967-68

FALL TERM

1967-68

Registration, new students	Sept. 8
Registration, old students	Sept. 9
Fall term instruction begins, 7:30 A.M.	Sept. 11
Last day for filing statement-of-courses form and change of committee form and for new students to file nomination of committee form	Sept. 22
Last day for old students to take Admission to Candidacy Examinations in order to have them considered as of the beginning of the term	Oct. 11
Language examinations: French, German, and Russian	Oct. 23
Last day for change of course registration	Nov. 17
Thanksgiving recess: Instruction ends, 1:10 P.M.	Nov. 22
Instruction resumes, 7:30 A.M.	Nov. 27
Fall term classes end, 1:10 P.M.	Dec. 16
Christmas recess	
Last day for completing all requirements for January degrees	Dec. 27
Independent study period begins	Jan. 3
Final examinations begin	Jan. 8
Final examinations end	Jan. 16
Intercession begins	Jan. 17

SPRING TERM

Registration, new students	Jan. 26
Registration, old students	Jan. 27
Spring term instruction begins, 7:30 A.M.	Jan. 29
Last day for filing fellowship and scholarship applications for the following year	Feb. 1
Language examinations: French, German, and Russian	Feb. 3
Last day for filing statement-of-courses form and change of committee form and for new students to file nomination of committee form	Feb. 9
Last day for old students to take Admission to Candidacy Examinations to have them considered as of the beginning of the term	Mar. 1
Spring recess: Instruction suspended, 1:10 P.M.	Mar. 23
Instruction resumed, 7:30 A.M.	Apr. 1
Last day for change of course registration	Apr. 5
Language examinations: French, German, and Russian	Apr. 20
Last day for completing all requirements for June degrees	May 10
Spring term classes end, 1:10 P.M.	May 11
Independent study period begins	May 13
Final examinations begin	May 20
Final examinations end	May 26
Commencement	June 5

SUMMER

Summer Research period begins	May 29
Registration for Summer Session	June 17 (8-week)
	June 26 (6-week)
Last day for filing statement-of-courses form and change of committee form and for new students to file nomination of committee form	July 5
Language examinations: French, German, and Russian	Aug. 3
Summer Session ends	Aug. 11
Last day for completing all requirements for September degrees	Aug. 16
Summer Research period ends	Sept. 12

(Please see inside back cover for the 1968-69 Calendar.)

ERRATUM—On page 197, under the heading "Architecture, Fine Arts, Regional Planning," the reference to further information should read: "See also the *Announcement of the Graduate School: Humanities.*"

Cornell University

Graduate School
Social Sciences

1968-69

ADMINISTRATION

UNIVERSITY

James A. Perkins, President of the University
Dale R. Corson, University Provost
Mark Barlow, Jr., Vice President for Student Affairs
John E. Burton, Vice President — Business
Lewis H. Durland, University Treasurer
W. Keith Kennedy, Vice Provost
Franklin A. Long, Vice President for Research and Advanced Studies
E. Hugh Luckey, Vice President for Medical Affairs
Thomas W. Mackesey, Vice President for Planning
Paul L. McKeegan, Director of the Budget
Robert D. Miller, Dean of the University Faculty
Steven Muller, Vice President for Public Affairs
Arthur H. Peterson, University Controller
Robert L. Sproull, Vice President for Academic Affairs
Neal R. Stamp, Secretary of the Corporation and University Counsel

GRADUATE SCHOOL

W. Donald Cooke, B.S., M.S., Ph.D., Dean of the Graduate School
Paul R. Leurgans, B.A., M.S., Ph.D., Associate Dean of the Graduate School
Frank W. Young, B.A., M.A., Ph.D., Secretary of the Graduate Faculty

General Committee

Professor Ralph Bolgiano, Jr. (Member-at-Large), term expires 1969
Professor C. L. Comar (Member-at-Large), 1969
Professor Charles F. Hockett (Member-at-Large), 1967
Professor R. D. Miller (Member-at-Large), 1967
Professor Isaac Rabinowitz (Humanities), 1967
Professor S. Cushing Strout (Humanities), 1969
Professor Philip J. McCarthy (Social Sciences), 1967
Professor John M. Roberts (Social Sciences), 1969
Professor J. Thomas Reid (Biological Sciences), 1967
Professor Harry W. Seeley, Jr. (Biological Sciences), 1969
Professor Robert A. Plane (Physical Sciences), 1967
Professor E. L. Resler, Jr. (Physical Sciences), 1969

GRADUATE SCHOOL OF MEDICAL SCIENCES

1300 York Avenue
New York, New York 10021

John E. Deitrick, M.D., Dean of the Graduate School of Medical Sciences

Julian R. Rachele, B.A., M.A., Ph.D., Assistant Dean of the Graduate School of Medical Sciences

UNIVERSITY PROFESSORS-AT-LARGE

Professors-at-Large are distinguished nonresident members of the University Faculty. During short visits to the campus, of up to a month's duration, made at irregular intervals, they hold seminars, give public lectures, and consult informally with students and faculty.

Raymond Aron
Sir Eric Ashby
Daniel Cosío Villegas
Manfred Eigen
Gino Gorla

L. S. B. Leakey
Barbara McClintock
Sir Peter Medawar
Charles S. Singleton
Georg Henrik von Wright

CORNELL UNIVERSITY ANNOUNCEMENTS

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The courses and curricula described in this Announcement, and the teaching personnel listed therein, are subject to change at any time by official action of Cornell University.

Cornell University

GRADUATE EDUCATION AT CORNELL

Graduate education at Cornell is based on the principle that no objective of a university lies deeper in its tradition or springs higher in its aspiration than does the nurture of scholarship. The advancement of learning, the methods of learning, and the criticism of learning occupy the highest reaches of university life and work. Graduate education brings into fruitful contact the most distinguished scholars and the most advanced students, that learning may be shared and that wisdom may be at least glimpsed.

The Graduate School provides an environment within which scholarly capability is encouraged to emerge, thrive, and transmit itself. The School arranges a set of conditions congenial to the student who is prepared to profit from the availability of advanced courses of study; the opportunity for sustained reflection; the companionship of active, full-time fellow students; the most highly developed libraries, laboratories, and other facilities for research; the prospect of independent discovery or recovery, of evaluation or revaluation; the daily presence of distinguished teachers; and the hope of attaining a firmly based structure of knowledge and a free and independent habit of judgment.

Freedom and independence are key qualities of scholarship, and graduate studies at Cornell are ordered so as to preserve them for both teacher and student. The Cornell principle is that scholars are begotten by other scholars, that judgments are formed by associating with the best judges, that learning lives in the unbroken succession of the learners and the learned, that genuine scholarship is always humane and rests ultimately on personal teaching and personal learning, that success in graduate studies must consist of satisfying the professor rather than a mute schedule of requirements. Graduate School standards are high, but they are maintained there not by the pronouncements of an office but rather by the men after whom such standards are themselves fashioned.

The Cornell graduate student selects not only the study he wishes to pursue, but also the scholar under whose tutelage he wishes to pursue it. The candidate himself, no one else, makes the choice. Some candidates when they apply for admission have in mind the man or men with

whom they wish to study. Those who do not are granted, under a temporary adviser, a semester in which to form an acquaintance and to come to a decision. The supervising professor is called the student's chairman. The chairman and his associate or associates, also chosen by the student, form the student's Special Committee. All such matters as the outlines of study, the observation of progress, the setting of general examinations, the conduct of the thesis, and other exercises leading to a graduate degree are determined within this small circle — the student and the professors he has selected to direct him. So successful is this arrangement and so strongly does Cornell believe in it, that the Special Committee enjoys extraordinary freedom and independence in conducting the student to his degree. The Graduate School sets no course requirement, no credit-hours requirement, no grade requirement. Within the broad agreements of the Graduate Faculty concerning residence, oral examinations, and thesis, the student will be recommended for his degree whenever his Special Committee judges him ready to receive it. When the Committee is satisfied, the requirements are.

The Cornell Graduate School has an enrollment of 3,300 students, and the Graduate Faculty consists of about 1,100 members. In contrast to many other graduate schools, approximately 98 percent of the students are full-time degree candidates, with the majority in programs leading to the Ph.D. degree.

ADMISSION

APPLICATIONS

To be considered for admission to the Graduate School an applicant must (1) hold a baccalaureate degree granted by a faculty or university of recognized standing or have completed studies equivalent to those required for a baccalaureate degree at Cornell, (2) have adequate preparation for graduate study in his chosen field of instruction, (3) have fluent command of the English language, and (4) present evidence of promise in advanced study and research. Students from United States colleges and universities should be in at least the top third of their graduating class.

Applications for admission should be requested from the Graduate School, Sage Graduate Center, Cornell University. Two letters of recommendation from the applicant's major instructors, official transcripts of record from all the institutions of higher learning attended, and, where required, the Graduate Record Examination or the Miller Analogies Test scores complete the application.

The applications from United States citizens and from foreign applicants who reside in the United States or Canada must be accompanied by a \$15 nonrefundable application fee. Foreign applicants residing elsewhere who have been accepted for admission must pay this fee before registration.

Foreign applicants whose native language is not English and who have not received their secondary school or university education in the English language must take the Test of English as a Foreign Language by arrangement with Educational Testing Service, Princeton, New Jersey 08540, U.S.A., or the Michigan English Language Test by arrangement with the English Language Institute, University of Michigan, Ann Arbor, Michigan 48104, U.S.A. The test scores must be reported directly by the testing organization to the Graduate School as part of the essential application information, and no final action on applications will be taken until the scores have been received. Both testing programs are available throughout the world. Information on times and places for administration of the tests may be obtained directly from the addresses given above. Since these tests are diagnostic, admission to those applicants whose scores indicate unsatisfactory command of English may be denied or may be made contingent upon evidence of improved command of English.

If English has been the medium of instruction in the secondary school or university, a statement to this effect signed by a responsible officer of a United States Embassy or Consulate or by an appropriate official of the educational institution involved should be sent to the Graduate School.

All applicants for admission and fellowship consideration are urged to take the Graduate Record Examination (GRE) Aptitude (Verbal and Quantitative) Tests of the Educational Testing Service, and to have the scores sent to the Cornell Graduate School as part of their application materials. Information about the times and places of test administrations may be obtained directly from the Educational Testing Service, Princeton, New Jersey 08540. The Field listings, pages 47-196, should be consulted for Fields requiring the scores of both the Aptitude Test and the pertinent Advanced Test.

CATEGORIES OF ADMISSION

1. Degree Programs

It is expected that most applicants for admission will pursue a program for an advanced degree. Except under unusual circumstances, those who already hold an advanced degree are not permitted to apply for the same degree. Applicants may specify candidacy for the Master of Arts or Master of Science or one of the professional Masters' degrees listed on pages 197-200. However, since Cornell has a strong commitment to doctoral work, most students are encouraged to enroll in a doctoral program. In some fields, students registered in a doctoral program may be required to seek a Master's degree as an initial step in the program.

2. Provisional Candidacy

Under circumstances in which it is difficult to evaluate the academic background of qualified applicants, they may be admitted to *provisional* candidacy. Ordinarily only one semester of study in provisional candidacy is permitted, and the student who fails to qualify for candidacy at the end of that time may be requested to withdraw from the University.

3. Noncandidacy

When staff and facilities are available, the Graduate School will admit some applicants who do not intend to work toward an advanced degree at Cornell but who have special objectives for formal study or scholarly work at the graduate level. In order to be admitted for study in noncandidacy, the applicant must satisfy all the entrance requirements expected of degree candidates. Registration in noncandidacy is restricted to two semesters.

CHANGE OF STATUS

A student who wishes to change his status from nondegree candidacy to regular candidacy or from one degree or Field to another, or who, after receiving the Master's degree, wishes to undertake candidacy for the doctorate, must submit a request in writing to the Dean of the Graduate School asking for transfer to the new status. Reasons for the change in status should be given. Provisional candidacy is automatically reviewed at the end of each semester, and no letter is necessary in this instance.

DEGREE REQUIREMENTS

THE SPECIAL COMMITTEE

The general degree requirements of the Graduate School are kept at a minimum in order to give the student maximum flexibility in choosing a desirable program of studies. Since progress in graduate study depends so much on the individual student's situation, there are no course, grade, or credit requirements imposed by the Graduate School. The student's program is developed in conjunction with a Special Committee chosen by the student from the area of studies of interest and is designed to best fit the specific needs and desires of the individual student. Satisfactory progress toward the degree is also judged by the Special Committee rather than by any arbitrary standards imposed by the Graduate School.

The Special Committee under which a Master of Arts or a Master of

Science candidate carries on his work is composed of a chairman who represents the major subject, and one representative of an appropriate minor subject. The Special Committee of a doctoral student is composed of a chairman, representing the major subject, and two other members representing other areas of interest. The chairman of the Special Committee directs the student's thesis research. Some Fields of study require two minor subjects for doctoral programs while for others only one is needed, but all Ph.D. Special Committees have three members.

The selection of the Field and the major subject, as well as the chairman of the Special Committee, is made by the incoming student. It is the privilege of the graduate student to ask any member of the Graduate School Faculty who is in the Field of his major subject to serve as his chairman. The chairman in turn advises the student about minor subjects and faculty members who might be appropriate to represent them on his Special Committee. The choice of major and minor subjects and the formation of the Special Committee must be recorded in the Graduate School Office within two weeks of the beginning of the first term of residency. However, since the student may be uncertain of his aspirations at that time, he is encouraged to change the membership of his Special Committee as his aims become more definite.

In some of the larger Fields of the Graduate School the difficulty in making a wise selection of a Committee is so great that the Field Representative or other faculty member may serve temporarily as the chairman of the Special Committee while the student seeks a permanent chairman and committee to supervise his programs of study.

The members of the Special Committee decide upon the student's program of study and research and whether he is making satisfactory progress toward the degree. They conduct and report on oral examinations, and they approve the thesis. The Committee and the student constitute an independent working unit. All members of the Graduate School Faculty, however, are free to participate in the scheduled examinations and review the theses of candidates for degrees.

The organization of the Graduate School at Cornell is based on a concept of Fields of study which is independent of colleges and departments. It is thus possible for a graduate student to take courses in any division of the University and to choose major and minor subjects without regard to organizational lines.

EXAMINATIONS

The Special Committee conducts the examinations that are required for the degree. At the discretion of the Special Committee these examinations may be entirely oral or both oral and written. The following examinations are required:

For the Master's degree: a final examination, which under certain conditions may be combined with the Admission to (Ph.D.) Candidacy Examination.

10 DEGREE REQUIREMENTS

For the doctoral degrees: (1) A comprehensive Admission to Candidacy Examination for formal admission to doctoral candidacy. This examination may not be taken until two units of residence credit have been accumulated and is normally taken in the second or third year. Two terms of residence must be credited after this examination. (2) A Final Examination, which is primarily concerned with the doctoral dissertation.

In some Fields a qualifying examination is given at an early date to determine the student's fitness for undertaking advanced study and to enable the Special Committee to plan a program which will make him familiar with the requisite knowledge and techniques of his chosen field of study.

When the candidate has completed the thesis, he presents it to the Special Committee at the final thesis examination. This examination is oral and covers subject matter related to the thesis topic.

FOREIGN LANGUAGE REQUIREMENTS

Each Field of instruction has its own foreign language requirements which it considers most useful to the particular area of study. Any Special Committee may, at its discretion, require knowledge of foreign languages beyond the announced requirements.

Candidates required by Fields to demonstrate a reading ability in French, German, or Russian must pass the Graduate School Foreign Language Test given by the Educational Testing Service, Princeton N.J. 08540, and administered by the Graduate School. A charge is made to cover the cost of administering each test. As an alternative, candidates may pass the reading part of the CEEB college language test with a score satisfactory to the Division of Modern Languages. Students who take examinations in languages other than French, German or Russian, or in a speaking knowledge of any language, should arrange with the Graduate School Office for assignment to a suitable examiner. Arrangements to demonstrate a higher level of proficiency in a foreign language as required by some Fields may be made at the Graduate School Office.

A student may petition the Dean to transfer a language examination taken elsewhere to his record at Cornell.

Courses designed to aid graduate students in learning how to read French, German, and Russian are given by the Division of Modern Languages in cooperation with the Graduate School Faculty. There are two courses offered each term — one at the elementary and one at the intermediate level — in each of the languages. Anyone registering for them is expected to attend regularly throughout the term, take all examinations, and complete assigned work.

ELEMENTARY FRENCH, GERMAN, or RUSSIAN 151. Three hours. M W F (time to be announced).

INTERMEDIATE FRENCH, GERMAN, or RUSSIAN 152. Three hours. M W F (time to be announced).

THESIS

Candidates for the degrees of Master of Arts or Master of Science are required to submit a thesis in fulfillment of the requirements for the degree. In some fields a thesis is also required for professional Masters' degrees. Candidates for the doctoral degree must complete a thesis which constitutes an imaginative contribution to knowledge. The faculty requires publication of Ph.D. theses by abstract or microfilm.

RESIDENCE

The Graduate Faculty regards study in residence as essential. Although a person working off-campus may attain proficiency in a technique or even in a field of knowledge, he may fail in other ways to attain the breadth of knowledge necessary for scholarly work. In addition to contact with the libraries and physical facilities of the University, he needs the daily acquaintance, company, aid, and stimulus of others engaged in similar pursuits. He should form the habit of attending lectures, seminars, and meetings of groups in whose activities he takes interest.

Full-time study for one semester with satisfactory accomplishment constitutes one residence unit. The Graduate School Faculty requires that each candidate for a Master's degree earn two units of residence, and for the Ph.D. degree six units of residence. However, the time required to obtain the degree generally exceeds those minimum requirements.

A student must complete all the requirements for the Master's degree in four years and for a doctoral degree in seven years.

A student in a doctoral program may earn no more than two units for work done in Summer Research, Summer Session, and the Division of Extramural Courses. At least four of the six required units must be earned as a full-time student, earning three-quarters of a residence unit or more each term, and two of the last four units must be earned in successive terms of full-time study on the Cornell campus.

Transfer of Residence

Candidates for the Master's degree may not count study in other graduate schools as part of their residence. Candidates for the doctorate may be permitted to count study for the Master's degree as equivalent to two residence units; those who have received training of an exceptional quality and amount may petition for more. No commitment regarding this may be made until after the student has entered into residence and his Special Committee has had further opportunity to judge his accomplishments. The residence transferred must not exceed that which would have been earned under similar circumstances at Cornell. Credits secured during study as an undergraduate or as a special student, even

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for work in courses designed primarily or wholly for graduate students, will not be allowed.

Summer Session

To receive residence credit through registration in the Summer Session, the candidate must register in both the Summer Session and the Graduate School and must file a statement of courses satisfactory to his Special Committee. The completion of eight or more hours of credit in the eight-week session, or a minimum of six hours in the six-week session, will count as one-half or two-fifths of a residence unit respectively, if approved in advance and reported as acceptable by the candidate's Special Committee.

Requirements for Masters' degrees may, upon approval of the appropriate graduate Field, be completed solely during the summer period if instruction in the chosen major and minor subjects is offered. Only two residence units for study in the Summer Session may be accepted in fulfillment of requirements for the doctorate. Upon recommendation by the Special Committee of a student and on approval by the Dean of the Graduate School, residence may be transferred for study done in one preceding Cornell Summer Session period if such study is attested to be an integral part of the graduate program subsequently undertaken.

SUMMER RESEARCH

To encourage students to continue their studies during the summer period, no tuition or fees are charged for summer research if the student has been registered during the previous academic year. Substantial funds are also available for summer fellowship and research assistantship support. A special summer fellowship program is also available for those students who have held teaching fellowship appointments during the previous academic year. Students have access to the regular services of the University Clinic and Hospital during the summer without charge.

Under certain conditions, students may also accumulate residence credit in the summer term.

Part-Time Studies

Essentially, all graduate students at Cornell are full-time students. In those cases where employment is necessary, students may hold positions requiring up to ten hours of work without reduction of residence credit. Teaching fellows and research assistants whose duties require up to twenty hours a week are able to obtain full residence credit.

The legislation with respect to eligibility of part-time employees for residence units is as follows.

EMPLOYMENT	RESIDENCE UNITS ALLOWABLE PER SEMESTER		
	<i>Contributory in the major field of study and on campus</i>	<i>Noncontributory but on campus</i>	<i>Off campus</i>
<i>Total clock hrs. per week</i>			
0-10 hours	1 unit	1 unit	1 unit
11-20 hours	1 unit	$\frac{3}{4}$ unit	$\frac{3}{4}$ unit
21-30 hours	$\frac{3}{4}$ unit	$\frac{1}{2}$ unit	(See paragraph below)

If the employment is more than twenty clock-hours per week and is off campus, or if it is more than thirty clock-hours per week under any circumstances, a maximum of two-fifths of a residence unit per semester may be earned through registration in the Division of Extramural Courses, but this will be permitted only on the basis of petition approved prior to the time that the work is undertaken. For the degree of Master of Arts or Master of Science a maximum of one unit, and for the degree of Ph.D. a maximum of two units of residence may be earned in this way.

Therefore, under the circumstances described above, degree candidates may accumulate residence units for course work completed through the Division of Extramural Courses. Instruction is offered in certain fields of study both on and off the campus. Fifteen credit hours are the equivalent of one residence unit, and six credit hours the equivalent of two-fifths of a residence unit—the smallest fraction that will be recorded by the Graduate School toward fulfillment of residence requirements. Detailed information concerning extramural courses and registration procedures may be obtained from the Division of Extramural Courses, B-20 Ives Hall.

FINANCIAL SUPPORT

Extensive financial support is available to Cornell graduate students. Approximately 3,000 of the 3,300 graduate students have financial support in the form of fellowships, teaching fellowships, and research assistantships.

Since the requirements of graduate study are so great, students are discouraged from trying to obtain financial support through employment outside their academic interests.

No special forms are available for financial aid. The applicant should check the type or types of appointment for which he wishes to be considered on the application for admission form.

TEACHING FELLOWSHIPS

The duties of a teaching fellow normally involve classroom and laboratory instruction of undergraduates and, as such, play a major role in the educational process and the academic atmosphere of the University. Since a large majority of Cornell's graduate students eventually seek a career in teaching, the experience gained from these appointments is an invaluable part of the student's development. In most Fields of study students are encouraged to spend some time in teaching, and in a few Fields the faculty believe the experience so important that they require it of all students in doctoral programs. An appointment as a teaching fellow is usually in the student's major field or in one that is closely related. The duties require from ten to twenty total clock-hours a week of the student's time, depending on the Field. A teaching fellow whose duties are in his major Field of interest and do not exceed twenty hours is eligible for full residence credit. The remuneration varies widely, but it is usually from \$1,900 to \$2,700 for an academic year and may be supplemented by a scholarship which covers tuition and fees. A special summer fellowship program is also available for teaching fellows. Because of possible problems in communication with undergraduates, applicants from non-English speaking countries are not normally appointed as teaching fellows in their first year at Cornell. Appointments are made by department chairmen. Applications for these positions should be made to the Field Representative of the Field of the major study chosen.

RESEARCH ASSISTANTS

The duties of a research assistant involve work on a research project. The work performed is frequently applicable to the student's thesis research and is under the direction of the chairman of his Special Committee. The student is required to spend twenty hours a week, but if the research is in the field of his major interest he is able to acquire full-time residence credit. In many Fields of study such appointments are not normally made to students in their first year of graduate study.

FELLOWSHIPS

A fellowship ordinarily is awarded in open competition to a full-time student who is a candidate for a higher degree. The award is made as a tax-exempt gift, and it covers not only tuition and fees but may also provide a substantial stipend for living expenses during tenure. A student who holds a fellowship is free to select his own research project, and his primary responsibility is to pursue his studies for his degree. The award of the fellowship does not obligate the holder to render services to the University, except that in certain fields some teaching

is required of all graduate students for the sake of the experience and training, nor is the holder of a fellowship committed in any way in respect to future employment. The holder of a fellowship may accept no other appointment or employment without permission of the Fellowship Board; however, teaching responsibilities will usually be approved as a routine matter if they contribute to the student's graduate program and do not exceed ten clock-hours of work per week.

Fellowships are awarded primarily on the basis of scholastic ability and promise of achievement as a graduate student.

The number of academic year fellowships awarded by the Graduate School is so extensive that it is impractical to present a listing. (See also Summer Fellowship Support, page 17.) Many other fellowships are offered to students majoring in certain Fields of study, and some of these are noted in the descriptions of the Fields.

A new program has been initiated at Cornell for students in the Humanities and in selected Fields of the Social Sciences (Anthropology, Economics, Government, Linguistics, Psychology, and Sociology). Its aim is to reduce the time required for a Ph.D. degree. This is to be accomplished through a greatly enlarged program of support, without any sacrifice in the academic standards or requirements for the degree. Incoming students in the Fields covered by the program will be guaranteed support for four full years, including the summers following the first academic year. In most cases, there will be fellowship support for three of the years, with increasing stipends accompanied by full tuition and fees. One year, or in a few cases, up to two years, of teaching fellowship will provide both support and valuable experience and training. Dependency allowances will be available. About 90 percent of those in the program will be given modest summer scholarships to enable them to continue their studies throughout the year.

Many private and federally supported fellowships are also administered by the Graduate School. National Science Foundation and National Aeronautics and Space Administration Traineeships are available, as well as National Defense Education Act (NDEA) Title IV Fellowships. NDEA Fellowships offer three years of support to doctoral students who are U.S. citizens and who intend to enter a teaching career. (Since completion of a Ph.D. program at Cornell normally requires four years, and because the program is aimed at prospective teachers, NDEA Fellows are normally expected to gain teaching experience and have support during one of the years as teaching fellows.)

The purpose of the NDEA Title VI (NDFL) Fellowship program is to provide encouragement to individuals taking advanced training in languages and in associated area studies designated as being of critical importance to the United States. For area studies, see pages 28-38. Applicants who are interested in NDFL Fellowship support must so indicate when requesting their application materials for admission. National Institute of Health Traineeships are available and are offered by Fields which have been awarded such grants.

Prospective graduate students should also consider applying for fellowships awarded on a national basis by the National Science Foundation, the Atomic Energy Commission, the Public Health Service, the Woodrow Wilson National Fellowship Foundation, and the Ford Foundation. The deadlines for these programs are usually in the fall for the following academic year. In some cases it is possible for winners of NSF and AEC awards and PHS Fellows to hold half-time appointments as teaching fellows for an additional stipend.

New York State provides several forms of financial support. The Herbert H. Lehman Fellowship program is open to applicants from all states whose interest is in social sciences or public or international affairs. The Fellowships are awarded on a competitive basis and may be used only in New York State institutions. Lehman Fellowships provide each recipient with \$4,000 for the first year of graduate study and \$5,000 for each subsequent year. New York State residents are eligible for Regents College Teaching Fellowships or Regents Fellowships for Doctoral Study in Arts, Science, and Engineering. Any of these must be applied for in the fall on forms obtained from the Regents Examination and Scholarship Center, New York State Education Department, Albany, New York 12224.

New York State also grants every resident who applies and is certified to be a full-time student a Scholar Incentive Payment which may be, for graduate students, from \$100 to \$300 per term in the first year, and from \$200 to \$400 per term thereafter, depending on required tuition and income. However, the Scholar Incentive Payment may not exceed the amount that is \$100 less than required tuition. Thus, in the state-supported divisions of Cornell University the minimum and maximum Scholar Incentive Payment is \$100 a term in any year.

Because all state educational aid is expressly for the purpose of covering educational costs, every winner of a Cornell fellowship or scholarship covering tuition who also wins a state grant, or who is eligible to apply for a Scholar Incentive Payment, will have his Cornell award reduced by at least the amount of the minimum Scholar Incentive Program award.

A space is provided on the admission application form where the student may indicate the type of support for which he wishes to be considered. No special fellowship application form is required.

As agreed upon by some of the members of the Council of Graduate Schools in the United States, the regular time for notification of award from Cornell of fellowships and scholarships for the succeeding academic years is April 1. *All fellowship and scholarship applications received by February 1 will be considered for April awards*, and each applicant approved for award will be notified not later than April 6 as to whether he has a fellowship or is named as an alternate. It is hoped that the awardees will notify the Graduate School no later than April 15 of their acceptance or rejection of the award. Failure to do this by April 22 will be considered a declination. Applications received after February 1 may be considered only if vacancies occur.

SUPPORT IN THE HUMANITIES

Recognizing that the availability of financial support for continuing graduate students in the area of the Humanities is less than in other areas, Cornell has made a particular effort to compensate for this inequity by a special Cornell-supported program. Students in doctoral programs in the Humanities area who enter with financial support from Cornell, or with nationally awarded fellowships, are guaranteed support in the form of an assistantship or a fellowship for a four-year period, provided they are making satisfactory progress toward the doctoral degree.

SUMMER FELLOWSHIP SUPPORT

The Graduate School Faculty believes that graduate education, in contrast to undergraduate programs, should be on a year-round basis to enable students to obtain their degrees in a reasonable period of time. The majority of Cornell Ph.D. students are, therefore, supported over the summer period through research assistantships and fellowships. Normally the summer period is devoted to informal study and research rather than to course work, and no tuition or fees are charged.

Two extensive summer fellowship programs based on financial need are noteworthy. One involves awards to those students who have been full-time teaching fellows. The other involves fellowship support to students who are in the final stages of their thesis preparation. It is expected that some 200 summer fellowships will be awarded for the summer of 1968 under these two programs. Another 1,300 students will be supported as research assistants, and 250 students will be on twelve-month fellowships.

RESIDENCE HALL ASSISTANTSHIPS

Assistantships in University residence halls are available for men and women graduate students in any academic field. They are most appropriate for graduate students who desire experience in working with undergraduate students and University staff while contributing financially to their own study.

In the women's area one-third of the fifteen assistantships available are reserved for graduate students in the field of Student Personnel Administration. Ten assistantships, offering living expenses and a yearly stipend, are available to graduate women in other disciplines. Particulars and application forms may be obtained by writing to the Office of the Dean of Students, 133 Day Hall.

In the men's housing area there are three types of positions, all requiring a personal interview. There are a number of counselor positions available to single undergraduate and graduate men. Each counselor is responsible for a floor containing fifty-five freshmen. Counselor positions

carry free room for the first year and a \$200 stipend in the second. The eight head resident positions are open to married graduate students without children. Each head resident is responsible for a dormitory of 250 men and five staff. The head resident lives in a two-room apartment and receives a \$700 stipend.

Applications should be addressed to the Office of the Dean of Students, 133 Day Hall. The deadline for application for positions in men's dormitories is February 1.

LOANS

Only graduate students duly registered in a degree-granting program are eligible for loans. This does not include provisional or noncandidate students.

Cornell utilizes university, state, and National Defense Loan programs. The total amount of loan recommended, regardless of source, is based upon the financial need of the student as analyzed by the University Committee on Financial Aid.

Applications are available at the Office of Scholarships and Financial Aid, 105 Day Hall. State loan applications may also be obtained at this office.

PART-TIME EMPLOYMENT

Additional opportunities for part-time work are often available in connection with departmental research projects or other activities. Applications for this type of work should be made directly to the department concerned. If a candidate is employed in research or other work closely allied to his academic interest, he may find such employment academically valuable.

Progress in candidacy is difficult when a student attempts to support himself wholly or partially by work unrelated to his studies. It usually is sounder economy to borrow from the Office of Scholarships and Financial Aid and keep employment to a minimum. However, the University maintains a part-time student employment service in that office.

EMPLOYMENT OPPORTUNITIES FOR WIVES OF GRADUATE STUDENTS

Cornell University offers many nonacademic positions for working wives through the Personnel Division, B-12 Ives Hall. Types of work include secretarial and clerical work, work for technicians in the various laboratories, library work, limited nursing positions, and some administrative positions. Applications may be made through the Personnel Division upon arrival on campus. Applicants for academic positions should apply to the specific departments in which they are interested.

In addition to the University positions, the Ithaca area offers opportunities for similar positions in small industrial plants, Ithaca College, the local hospital, and various businesses, as well as for teaching positions in the public school system and some professional positions in service agencies. Applicants should go to the New York State Employment Office for further information regarding these opportunities.

GENERAL INFORMATION

ACTIVITIES FOR GRADUATE STUDENTS

Cornell is in a small academic town in central New York State. It has the advantages of a small-town atmosphere but at the same time has many cultural aspects that rival those of any large city. A significant concert program brings internationally famous artists to Ithaca. Dramatic programs, talks by visiting lecturers, and art exhibitions fill the weekly calendar of the University and present such a wide choice of events that a student cannot possibly attend all in which he is interested.

There are places for graduate students in many extracurricular activities shared by undergraduates; among others are intramural sports, drama, Glee Club, Sage Chapel Choir, publications, music, and folk dancing. A Graduate Student Activities Committee is active in scheduling weekly social events. A Graduate Wives' Club has had a long tradition of activity for the wives of graduate students. Willard Straight Hall and the Sage Graduate Center provide facilities for graduate groups and aid in planning special functions for them.

Cornell United Religious Work (CURW) includes a range of activities for graduate students. Its offices are in Anabel Taylor Hall, which serves as a headquarters for chaplains who represent several denominations and who may be consulted by students.

Cornell's location in the Finger Lakes Region of New York State stimulates outdoor activity. Many swimming and boating facilities are available. In addition, Cornell operates a private eighteen-hole golf course; indoor and outdoor swimming pools; and indoor skating rink; tennis, handball, and squash courts; gymnasium; and riding stables, all of which are open to graduate students. A variety of ski resorts also operate near by.

Almost all Fields of study sponsor weekly seminars for their faculty and graduate students.

COUNSELING

The University maintains a variety of counseling services available to graduate students. A student's primary academic counselors are the members of his Special Committee.

Other counselors who are able to help in matters of various kinds will be found in the Office of the Dean of Students, the Office of Scholarships and Financial Aid, the International Student Office, the Gannett Medical Clinic, and the Sage Graduate Center.

INTERNATIONAL STUDENTS

Cornell has, since its founding, welcomed students from abroad. Currently 1,107 foreign students representing 84 countries are pursuing study in a variety of Fields.

In addition, each year over one hundred faculty members spend some time abroad in study and research, often in close association with foreign universities. This creates within the University community opportunities for scholars from other countries to meet and exchange ideas with members of the Cornell faculty, who often have first-hand knowledge of several countries and understand and appreciate a variety of cultures.

Special study programs within the Graduate School permit study in depth of particular areas such as Africa, Asia, Southeast Asia, Latin America, and the Near East. Students from those areas have an opportunity to contribute to such programs.

The Ithaca community is in a natural setting which allows for enjoyment of many recreational activities. In addition, varied cultural and intellectual activities are sponsored by the University. Tours of the community are conducted at the beginning of the fall semester. A group of Cornell faculty and Ithaca families maintain a Host Family Program, in which foreign students are invited to share in some aspects of American family life in the Ithaca community. With the University population a varied one, the community itself, although not large, tends to have a more cosmopolitan atmosphere than most other small cities, and the student can usually find an outlet for a wide variety of interests.

The University maintains an International Student Office at 142 Day Hall. Students from abroad are invited to consult the staff of that office on any questions they may have. The office works in close association with academic advisers and sponsors, and also with persons involved in a number of student and community programs in efforts to enrich the international and cultural life of Cornell. Students are asked to report to this office upon arriving in Ithaca.

HEALTH REQUIREMENTS ON ENTRANCE

The following health requirements for entering graduate students have been adopted by the Board of Trustees of Cornell University. Failure to fulfill these requirements may result in loss of privilege of registering the following term. The responsibility for fulfilling these requirements rests upon the student.

IMMUNIZATION. A satisfactory certificate of immunization against smallpox, on the form supplied by the University, must be submitted

before registration. It will be accepted as satisfactory only if it certifies that within the last three years a successful vaccination has been performed. If this requirement cannot be fulfilled by the student's home physician, opportunity for immunization will be offered by the Cornell medical staff during the student's first semester, with the cost to be borne by the student. If a student has been absent from the University for more than three years, immunity will be considered to have lapsed and a certificate of revaccination must be submitted.

It is strongly recommended by the University Health Services that all graduate students have immunization against tetanus before entering the University. All graduate students may, however, obtain initial and all booster tetanus toxoid immunizations at the Gannett Clinic for a nominal charge.

HEALTH HISTORY. Students accepted for admission will be required to submit health histories on forms supplied by the University.

X RAY. Every student is required to have a chest x ray. Opportunity is given to satisfy this requirement during the student's first week on campus. The cost of the x ray examination is included in the General Fee. When a student who has been away from the university for more than a year wishes to re-enter, he must at his own expense, once more fulfill the chest x ray requirement, and he must also submit a new health history.

HEALTH SERVICES AND MEDICAL CARE

Health services and medical care for students are centered in two Cornell facilities: The Gannett Medical Clinic (outpatient department) and the Sage Hospital.

Students are entitled to unlimited visits at the Clinic. Appointments with individual doctors at the Clinic may be made by calling or coming in person. (An acutely ill student will be seen promptly whether he has an appointment or not.) Students are also entitled to laboratory and x ray examinations indicated for diagnosis and treatment, hospitalization in the Sage Hospital with medical care for a maximum of fourteen days each term, and emergency surgical care.

If a student requires medical attention when the Clinic is not open, an attending physician or emergency service is available at Sage Hospital. The cost of these services is covered in the General Fee.

On a voluntary basis, insurance is available to supplement the services provided by the General Fee. For further details see the *Announcement of General Information*. If, in the opinion of the University authorities, the student's health makes it unwise for him to remain in the University, he may be required to withdraw.

If a student prefers to consult a private physician rather than go to the Clinic, or to have the services of a private doctor while a patient in Sage Hospital, he must bear the cost of these services.

LIVING ARRANGEMENTS

DORMITORY ACCOMMODATIONS. The University has established Sage Hall as a graduate residential center. Its dormitory facilities accommodate approximately 100 men in the north side of the building and 105 women in the south side. The Graduate Center, which is available for use by all graduate students and faculty, also contains a cafeteria seating 200, study rooms, and lounges. In addition, Cascadilla Hall has been remodeled to accommodate approximately 160 single graduate men.

Applications for dormitory accommodations may be obtained any time after January 1 for the coming academic year by writing the Department of Housing and Dining Services, 223 Day Hall.

FAMILY ACCOMMODATIONS. The University, through the Department of Housing and Dining Services, has three apartment developments for married students and their families. They are Cornell Quarters, Pleasant Grove Apartments, and Hasbrouck Apartments, with total housing for about 400 families. All apartments are unfurnished. For further information and application, write the Department of Housing and Dining Services, Room 223, Day Hall.

OFF-CAMPUS HOUSING. Because it is required that all students live in Cornell-approved housing, an office listing off-campus housing facilities is maintained by the Department of Housing and Dining Services in Room 223, Edmund Ezra Day Hall. It functions as a bureau of information, maintaining files of voluntarily listed accommodations for use of students and staff members who call at the office. Because the list of available accommodations is constantly changing, it is not practical to mail listings, nor is it feasible to maintain a waiting list of persons seeking accommodations.

MOTOR VEHICLES

The University does not encourage student use of motor vehicles but recognizes that in certain cases there may be important reasons why a student needs a motor vehicle. University regulations apply to all types of motor vehicles, including automobiles, motorcycles, motor bikes, and motor scooters.

Every student who owns, maintains, or for his own benefit operates a motor vehicle in Tompkins County, during the time the University is in session, must register such vehicle with the Safety Division Office, even though the vehicle may be also registered by faculty, officers, or employees. All students must register motor vehicles within the prescribed time for University registration at the beginning of the fall term (*exception*: students who are not then subject to this rule but later become subject to it must register vehicles within five days after becoming so subject). Students entering the University for the spring semester or re-entering after a period of absence must register motor

vehicles with the Safety Division at the time of, or within the time for, general registration.

Every student who has a motor vehicle must comply with the following requirements: (1) the student must be legally qualified to operate a motor vehicle in New York State; (2) the vehicle must be registered in New York State or legally qualified to be operated on the highways of New York State; (3) the vehicle must be effectively insured against public liability for personal injury and property damage for the minimum of \$10,000 - \$20,000 - \$5,000, for the duration of such registration and while the vehicle is under the control of the registering student; (4) the registration fee covering the fall and spring terms, or any part thereof, is \$4 and is due and payable in the Treasurer's Office on the same date as tuition and other fees; in case of late registrants, the fee will be due within a week after such registration. A fine is levied if the vehicle is not registered within the specified time.

No student may park his motor vehicle on the campus from 8 A.M. to 5 P.M. Monday through Friday, or from 8 A.M. to 1 P.M. Saturdays. Certain areas are restricted twenty-four hours a day; such areas include "no parking" zones, dormitory parking areas, and areas listed as limited at all times to holders of specific permits.

Special area parking permits are issued only after careful consideration by the Safety Division Office. Extenuating circumstances (physical disabilities, etc.) are the basis for the issuance of these permits.

The student's registration in the University is held to constitute an agreement on his part that he will abide by all its rules and regulations with regard to traffic and parking or suffer the penalty prescribed for any violation of them.

Correspondence regarding motor vehicles should be addressed to the Board on Traffic Control, G-2 Barton Hall.

PLACEMENT

The University Placement Service, 122 Day Hall, assists Cornell men and women who are ready for positions in business, industry, government, and other institutions by supervising the assembling and presentation of personnel records and making arrangements for on- and off-campus interviews. Graduate students are advised to register with the office approximately a year before they will be available for employment.

The Educational Placement Service, 320 Wait Avenue, performs a similar function for those whose vocation is teaching. Many of the professional schools and colleges maintain separate placement offices for the special professions; their services are available to registered graduate students and alumni.

TUITION AND FEES

Tuition and fees* become due when the student registers. Any student who fails to pay his tuition, fees, and other indebtedness to the University at the Treasurer's Office within the prescribed period of grace will be dropped from the University unless the Treasurer has granted him an extension of time to complete payment. The Treasurer is permitted to grant such an extension when, in his judgment, the circumstances of a particular case warrant his doing so. For any such extension the student is charged a fee of \$5. A reinstatement fee of \$10 is assessed against any student who is permitted to continue or return to classes after being dropped from the University for default in payments. The assessment may be waived in any instance for reasons satisfactory to the Treasurer and the Registrar when such reasons are set forth in a written statement.

Students registering at any time during the last ten weeks of any term are required to pay tuition at the rate of 10 per cent of the regular tuition of the term for each week or fraction of a week between the day of registration and the last examination day of the term.

Tuition or fees may be changed by the Trustees at any time without previous notice.

FEES PAYABLE BY GRADUATE STUDENTS

Registration Deposit

A deposit of \$28 must be made by every applicant for admission after the applicant has received notice of acceptance, unless the candidate has previously matriculated as a student at Cornell University. This deposit is used at the time of first registration to pay the matriculation fee, chest x ray, and examination-book charge, and covers certain expenses incidental to graduation if the student receives a degree. The deposit will not be refunded to any candidate who withdraws his application after May 22 or after twenty days of his admission approval. This fee is *not* covered by university fellowships, scholarships, or assistantships.

Tuition

Tuition is \$200 a term for all students registered in the Graduate School whose major chairman is on the faculty of the statutory divisions† of the University. Those with major work in the School of Nutrition also pay \$200 a term. Tuition in the Field of Education is generally \$200 except in a few cases, where it is \$772.50. All students in other divisions

* All statements in this section are prepared by the Treasurer, who alone is authorized to interpret them.

† The statutory divisions are the Veterinary College, the Colleges of Agriculture and Home Economics, and the School of Industrial and Labor Relations.

must pay tuition of \$772.50 a term. Tuition is payable at the beginning of each term.

Upon recommendation by the appropriate college dean and by action of the Controller, for each appointment in a statutory school or college, waiver of tuition in the Graduate School may be made to a member of the teaching or scientific staff, whose major field of study is in a statutory school or college.

Assistants in statutory schools or colleges who are on twelve-month appointments and who are registered for Summer Research for credit in the Graduate School may be recommended for waiver of tuition during the summer period under the above limitations. This waiver of tuition does not apply if the student registers in the Summer Session or is not doing productive work for the department.

Any student who is to receive less than full residence credit because of his employment should apply for proration of tuition on forms procurable at the Graduate School Office. *Tuition is based on residence eligibility.* See pages 11, 13.

General Fee

A fee of \$275.00, payable at the beginning of each term, is required of each student registered in the Graduate School whose major chairman is on the faculty of one of the statutory divisions,* or on the faculty of the School of Nutrition, or (in most cases) of the School of Education. All others pay a fee of \$252.50. This General Fee contributes toward the services supplied by the libraries, Clinic and Hospital, and the student union in Willard Straight Hall, and pays a portion of the extra cost of laboratory courses and general administration.

A student who is regularly registered in the Graduate School for either one or both terms of the academic year and has paid the above fee is entitled to these services while in residence during the summer immediately following the academic year without payment of an additional General Fee. If such a student registers with the University during the summer, he is liable for payment of any tuition and other fees, and must present his ID card at the time of payment of these charges in order to claim exemption from payment of the General Fee.

A graduate student who returns to the University to present his thesis and to take the final examination for an advanced degree, all other work for that degree having been previously completed, must register as a "Candidate for Degree Only" and pay a fee of \$35.

Other Fees

THESIS FEE. Each doctoral candidate must pay \$30 at the time of depositing the approved thesis and abstract in final form. This fee

* The statutory divisions are the Veterinary College, the Colleges of Agriculture and Home Economics, and the School of Industrial and Labor Relations.

covers the cost of preparing a master microfilm of the entire thesis; of publishing the abstract in the bimonthly periodical, *Dissertation Abstracts*; of mailing the microfilm and abstract to the microfilm publisher; and of binding both copies of the thesis for deposit in the University Library.

LIMITED REFUNDS. Part of the tuition and General Fee will be refunded to students who officially withdraw or take a leave of absence during the first nine weeks of a term. A student arranges for a leave of absence or withdrawal at the Graduate School Office. Students who withdraw are charged tuition and the General Fee at the rate of 10 per cent for each week or fraction of a week from registration to the effective date of withdrawal. No charge is made if the student withdraws within six days of registration. No part of the registration or matriculation fee is refundable.

SUMMER SESSION. Graduate students who attend classes in the Summer Session must register both in the Graduate School and in the Summer Session; they must pay the tuition and fees listed in the *Announcement of the Summer Session*.

SUMMER RESEARCH. Students registered for Summer Research pay one half of the General Fee for a registration period of not more than eight weeks and the full fee for a registration period of over eight weeks unless they were regularly registered in the Graduate School during the previous academic year. For those students eligible for and desiring residence, a prorated tuition is charged in accordance with the fraction of a residence unit to be earned, based on the tuition in effect for the subsequent academic term.

IN ABSENTIA. A graduate student registered *in absentia* will pay a fee of \$35 each term.

SPECIAL RESOURCES FOR RESEARCH AND ADVANCED STUDY

The descriptions below are limited to major general facilities at the service of graduate students in any of a variety of fields of instruction. In addition, substantial collections and facilities, in many instances unique, have been assembled for the use of graduate students. Although the facilities cannot be described adequately in this Announcement, some of them are mentioned in the statements given under the Fields of Instruction on pages 47-196.

CORNELL UNIVERSITY LIBRARIES

The libraries are among the principal facilities in the University's program of graduate studies. The total number of volumes at Cornell is now over 3,000,000, and that figure increases by about 175,000 each

year. For the convenience of students and faculty, the holdings are organized into a controlled system of distinct libraries. Some of the libraries are large; some have limited holdings. Some are general, some selective. Each library, whether within one of the colleges or housed in a building of its own, is situated where its books and its facilities lie most easily available to those who use them most. The libraries, whatever their nature, have been developed over many years by scholarly librarians and professors with the view of achieving breadth and depth in the central libraries, utility and coherence in the specialized ones.

The University's libraries offer support for graduate studies at several levels. They provide basic readings in virtually all subjects, collateral studies for classroom and seminar instruction, and highly specialized materials for advanced students. An unusually rich collection of reference works, both modern and antiquarian, expedites both the daily study and dissertational research. Of journals and periodicals, about 35,000 titles are available, most of them in complete runs, some of them in multiple copies, all of them immediately available. Special departments are maintained for maps, microtexts, documents, newspapers and other such collections.

To most graduate students, Olin Library, designed primarily as a research library, becomes the most familiar. Olin Library, completed in 1961, offers every modern library facility for its readers. The building is completely air-conditioned, scientifically lighted, comfortably furnished, and organized for efficient operation. It provides easy access to the book stacks, convenient photocopying facilities, and a comfortable lounge area for graduate students. Congestion is reduced not only because of architectural design but also because undergraduates have their own open-stack library in a separate building. A graduate student whose work has advanced to the writing stage may apply for use of a carrel adjoining the book stacks in order to facilitate completion of his dissertation. Olin Library is open in term time from 8 A.M. to 11:30 P.M. weekdays and from 1 P.M. to 11:30 P.M. Sundays.

Within Olin are a number of special collections likely to be of particular interest to advanced students of the social sciences and the humanities. The Department of Rare Books houses several distinguished collections, among them books and manuscripts relating to Dante, Petrarch, Wordsworth, Joyce, Shaw, and other literary figures. The Noyes collection is rich in American historical documents, especially those pertaining to Lincoln and the Civil War. Students in the social sciences will also find extraordinarily interesting manuscripts and books in the collections of slavery and abolition, of witchcraft, of the French Revolution, and of the life and times of Lafayette. Long familiar to professional scholars are the Wason Collection on China and the Chinese, Japan, and Southeast Asia collections, and also the Old Icelandic Collection. The History of Science collections include the Adelman library of embryology and anatomy, and the library of the French scientist, Lavoisier. The collection of Regional History and Cornell University archives is a manuscript depository with total holdings of more than 14 million items. These manuscripts relate to all aspects of the economic, political, and social history of this region and the areas

historically connected with it. Here too are the documents and manuscripts relevant to the founding and development of Cornell University. In addition to the collections in Olin Library, many of the college and department libraries also contain materials unique in their respective fields. Curators and reference librarians in all the libraries are available for counsel concerning the availability and use of research materials.

The University libraries in aggregate consist of Olin Library, as mentioned, Uris Library for undergraduates, the Physical Sciences Library, the Mann Library of Agriculture and Home Economics, and the libraries of the following colleges and schools: Architecture and Fine Arts, Business and Public Administration, Engineering, Hotel Administration, Industrial and Labor Relations, Law, Medicine (in New York City), and Veterinary Medicine. Added to these are the libraries of academic divisions and departments, together with those of the Agricultural Experiment Station at Geneva, New York, and of the Cornell Aeronautical Laboratory at Buffalo.

INTERNATIONAL STUDIES PROGRAMS

Center for International Studies

The Center for International Studies has as its primary function the coordination and support of the international activities of Cornell University. In addition to its role as a link between the activities of the specialized programs, the Center endeavors to stimulate new research and development and to advise the University on contract commitments sponsored by government or private agencies. In addition, the Center brings to Cornell visiting faculty, postdoctoral research fellows, and distinguished academic and professional personnel in the area of international affairs. The Center for International Studies has no faculty, students, or curriculum of its own. Its research and other programs depend upon effective interaction with the faculty of the University's existing schools, colleges, and departments. The offices of the Center are located in Rand Hall.

The student interested in a particular foreign area or in particular international problems will often find that the faculty of his own major discipline includes specialists that provide appropriate instruction and academic guidance. For example, courses in the following fields, among others, are regularly offered under the relevant departments: comparative government, international relations, international law and organization, international and comparative labor relations, international economics and the economics of development, international agricultural development, international population problems, and foreign languages and literatures.

The student seeking specialized foreign area knowledge may focus on one of the following three major, broadly-based, interdisciplinary area programs: China Program, Latin American Studies, and South-east Asia Program. In addition to these major area programs, it is pos-

sible for the student to pursue an area interest in African Studies, South Asia Program, or Soviet Studies.

The continued growth of these programs has been accompanied by the creation of an outstandingly comprehensive infrastructure of staff, library, language facilities, and other necessary resources.

Further information about the Center may be obtained from the Director, 216 Rand Hall.

African Studies

ADVISORY FACULTY COMMITTEE ON AFRICAN STUDIES:

William H. Friedland, Chairman; Eqbal Ahmad, Douglas Ashford, Harold Feldman, Milton Konvitz, Chandler Morse, Stephen Muller, Thomas Poleman, Victor Turner, Frederick Tom, Mary Wood.

Cornell University has substantial facilities for graduate study and research on Africa. Many members of the faculty in a variety of fields are qualified by research experience in Africa to provide instruction or guidance to students who wish to specialize in some aspect of African studies, who plan to work there, or who are interested in a general or comparative knowledge of the area. Instruction and training in general linguistics are available for students expecting to deal with tribal peoples, and special courses on particular African languages (e.g., Ibo, Yoruba) have been given in recent years. Courses are regularly offered on the cultures and social systems of Africa and on the problems of economic, political and social development of the area. The University libraries provide a good working collection of books, documents, maps, newspapers, and periodicals on Africa of sufficient scope to enable students and staff to carry on regional research. A representative group of African students is attracted to Cornell each year, most of whom are eager to discuss African life and problems with interested students from other areas.

Inquiries should be directed to Professor William H. Friedland, Chairman, Committee on African Studies, Ives Hall.

China Program

FACULTY: Knight Biggerstaff, Nicholas C. Bodman, Nai-ruenn Chen, Chuen-tang Chow, John W. Lewis, Ta-chung Liu, John McCoy, David Mazingo, Charles A. Peterson, Harold Shadick, Judith M. Triestman, Arthur P. Wolf, Martie W. Young.

Maurice Freedman, Professor of Anthropology at the University of London, will conduct a seminar in the fall semester.

The China Program provides comprehensive graduate-level training and sponsors a wide range of research. The faculty represent the following fields: anthropology, economics, government, history, history of art, linguistics and literature.

Graduate students in the program take a major in one of the fields listed above. They are expected at an early stage to attain sufficient mastery of the Chinese language to permit use of Chinese sources in their courses and seminars and in their research.

The focus of much of the research and teaching in the Program is the society, polity, economy, culture, and arts of modern and contemporary China. Students with this concentration are also expected to develop a general knowledge of traditional institutions and culture. Students majoring in history concentrate on medieval or modern China; no chronological limits apply to those in the history of art, linguistics, or literature.

Several China Program fellowships are offered each year to first-year graduate students. They ordinarily carry stipends of \$2,000 plus tuition and fees. Research assistantships are available from time to time. London-Cornell Studentships are open to advanced Ph.D. candidates in the social sciences and humanities who are in the China Program. They are tenable for study during an academic year at the London School of Economics and Political Science or at the School of Oriental and African Studies of the University of London. Stipends range up to \$3,000 plus air fares and tuition and fees.

London-Cornell Field Research Grants are open to Ph.D. candidates in the social sciences and humanities who are in the China Program. They are tenable for up to 22 months for the purpose of dissertation research. London-Cornell Field Research grantees may conduct their field work in any part of East Asia where Chinese communities or materials on modern and contemporary China are accessible. Stipends range up to \$12,000 for twenty-two months, including travel and research expenses.

National Defense Foreign Language fellowships and Foreign Area Training fellowships are tenable in the Program. Graduate students may also apply for other assistantships, fellowships, and scholarships offered by the University and by its departments.

Additional information on the Program and the various fellowships and awards may be obtained by writing to the Director, China Program, 103 Franklin Hall.

International Agricultural Development Program

Cornell University provides unusual scope and facilities for graduate-level study and research concerning development of the critical agricultural sector of newly developing nations. An integrated program of research and graduate training is available in the various biological, physical, and social sciences fields which are relevant to agricultural development. All fields of study in the New York State College of Agriculture at Cornell University have faculty members with intensive foreign experience and have students training for overseas work.

A student preparing for work in International Agricultural Develop-

ment majors in a specific Field. In addition to basic preparation in that Field, he will minor in the Field of International Agricultural Development. The student may follow courses which help him in applying his knowledge to the special conditions of newly developing nations, consult with experienced faculty members in regard to such application, and pursue a research project for his dissertation which is relevant to the special problems of newly developing countries. In much of this work the program in agriculture draws upon the strong international programs in other colleges of the University, including the area study programs and the varied offerings in modern languages.

Faculty experience in overseas work is continuously developed through work on College overseas programs, individual consulting assignments, and the ongoing research of faculty members and their students. The environment for the International Agricultural Development Program is further enhanced by more than 250 foreign graduate students majoring in the various Fields represented by the College of Agriculture.

Substantial expansion has recently taken place in the international program of the seven departments — agricultural economics, education, rural sociology, agronomy, animal science, plant breeding and plant pathology. In addition to many regular faculty members with extensive overseas experience, several members of these departments devote themselves full time to research and teaching in international agricultural development; they have built special programs of research and continuing contact with particular geographic areas. The departments have a number of assistantships and teaching fellowships designed to finance graduate students while they work closely with the teaching and research program in international agricultural development. Doctoral candidates in these departments who are interested in international agricultural development generally do field research in newly developing countries for their doctoral dissertations.

Similar expansion of international activities is under way in other subject matter areas of the College of Agriculture. At present, most departments in the College also have departmental assistantships and teaching fellowships which are open to outstanding students in those departments.

Additional information may be obtained by writing to Professor K. L. Turk, Director, International Agricultural Development Program, Roberts Hall.

International Legal Studies

The Cornell Law School offers a program of concentrated study in the international legal field. The full program is ordinarily pursued by LL.B. candidates in their second and third years of regular law study, but all courses in the field are open to graduate students in law. Some of these courses are offered by visiting faculty members who come to the Law School under its program for distinguished foreign professors. A number of foreign scholars and students also come to

Cornell for research and study in the comparative and international law fields. Other activities of the International Legal Studies Program have included faculty seminars in comparative law, summer conferences in public international law, and a program of speakers and seminars open to students. In addition, the Law School sponsors a small number of fellowships for foreign students to pursue graduate work in law.

For more detailed information, see the current *Announcement of the Law School*, the current *Annual Report of the Center for International Studies*, and the current issue of "International Studies at Cornell University—Courses of Instruction." Further information may be obtained by writing to Professor Robert A. Armstrong, Chairman, Graduate Study Committee, the Cornell Law School, or to the Director, Center for International Studies, 217 Rand Hall.

Latin American Program

FACULTY: Tom E. Davis, Director; Charles Ackerman, Frederick B. Agard, Solon Barraclough, Jerome S. Bernstein, Dalai Brenes, Frank Cancian, Martin Dominguez, Matthew Drosdoff, Charles L. Eastlack, Donald K. Freebairn, Rose K. Goldsen, Richard Graham, Eldon Kenworthy, Henry A. Landsberger, Thomas F. Lynch, Robert E. McDowell, James O. Morris, Thomas Poleman, Bernard Rosen, Donald F. Solá, J. Mayone Stycos, Terence S. Turner, William W. Whyte, Frank W. Young.

The Latin American Studies Program enables the graduate student to develop specialized competence in the history, culture, social organization, and language of Latin American countries. The student majoring in a relevant discipline can minor in Latin American Studies.

In addition to an interdisciplinary seminar, forty courses directly pertaining to Latin America are offered by the Departments of Agricultural Economics, Agronomy, Animal Science, Anthropology, Economics, Government, History, Housing and Design, Industrial and Labor Relations, Romance Studies, Rural Sociology, and Sociology. The courses constitute the basis for formulating programs leading to a graduate *minor* in Latin American Studies. Normally, five or six semester-long offerings satisfy the formal course requirements. In addition, the degree candidate minoring in Latin American Studies must exhibit proficiency in reading and speaking either Spanish or Portuguese.

Applications for scholarships, fellowships, or teaching fellowships should be made to the relevant departments. Ford Foundation support for the Program enables the University to award annually approximately ten fellowships providing an academic-year stipend of \$2,250 to supplement an award of tuition and fees. The holders of the fellowships are designated Ford Foundation Fellows in Latin American Studies. Students minoring in Latin American Studies also qualify for Title VI N.D.E.A. Modern Language fellowships. Application forms may be obtained from the Graduate School.

Summer research travel grants are available to selected graduate students through the Latin American Studies Program, and to undergraduate and graduate students through the Cornell-Brazil Project.

Support for thesis research in Latin America may be obtained from the Foreign Area Training Fellowship Program, the Social Science Research Council, Fulbright-Hays, the Doherty Foundation, the Organization of American States, and Cornell University.

Because of the considerable volume of research on Latin America currently being carried out by Cornell faculty members, students will normally be afforded the opportunity of participating in ongoing projects while in residence and will generally be expected to do field work in Latin America at some stage of their graduate training. Major research projects are under way in the fields of Andean community development, comparative economic development, fertility and population, descriptive linguistics, and urbanization.

Additional information may be obtained by writing to Professor Tom E. Davis, Director, Latin American Program, Rand Hall.

Near Eastern Studies

ADVISORY FACULTY COMMITTEE ON NEAR EASTERN STUDY: Isaac Rabinowitz, Chairman; J Milton Cowan, A. Henry Detweiler, Alfred E. Kahn.

Students wishing to relate the work of their major or minor subjects to Near Eastern area or language studies should seek advice or information from the Faculty Committee on Near Eastern Studies. In a number of fields, the University's resources for specialized graduate study and research on countries of the Near East are of considerable value. Members of the Committee can provide suggestions regarding relevant courses in various subjects, assistance in planning research on the Near East, and guidance in applying for area training or research fellowships. Inquiries should be addressed to Professor Isaac Rabinowitz, Chairman, Department of Semitic Languages and Literatures, 173 Goldwin Smith Hall.

South Asia Program

(Bhutan, Ceylon, India, Nepal, Pakistan, Sikkim)

STAFF: Gerald Kelley, Director; Messrs. Leonard P. Adams, Eqbal Ahmad, Douglas E. Ashford, Harold R. Capener, Arch T. Dotson, Gordon H. Fairbanks, Harold Feldman, James Gair, Michael Hugo-Brunt, Kenneth A. R. Kennedy, John W. Mellor, Stanley J. O'Connor, Morris E. Opler, Robert A. Polson.

The increasing importance of the peoples of the Indian subcontinent and of the role they play in world affairs enhances the need for providing opportunities in America for training and research in the field of Indic studies. The South Asia Program at Cornell, dealing primarily with India, Pakistan, Ceylon, and Nepal, is organized and equipped to

help meet this need. Since 1948 it has sponsored a series of research projects on India and Ceylon, and it has trained a distinguished group of younger American and South Asian scholars in South Asian area and language studies. The Program faculty includes members from agricultural economics, anthropology, government, history of art, child development and family relationships, business and public administration, rural sociology, industrial and labor relations, city and regional planning, and languages and linguistics. Sanskrit, Pali, Hindi, Urdu, Telugu, and Sinhalese are languages regularly offered at Cornell. Arrangements may be made for the intensive study of other South Asian languages at summer institutes held on different American university campuses each year.

Qualified graduate students interested in specializing in the study of South Asia minor in Asian Studies with concentration on South Asia, in South Asian art history, or in South Asian linguistics. Advanced degree requirements for this minor are roughly comparable in terms of South Asian materials to those for the Southeast Asia concentrations given below. The doctoral candidate must have a reading knowledge of Hindi or, depending upon the subarea of his specialization, some other important language of South Asia.

RESEARCH AND FIELD TRAINING

The doctoral dissertations of students in the South Asia Program are normally based on research done in India, Pakistan, Ceylon, or Nepal. Students' field research may benefit from advice and guidance in the field by a program staff member. At least one member of the faculty of the South Asia Program has been in South Asia for each of the last several years. Cornell is a charter member of the American Institute of Indian Studies, which was organized to facilitate study and research in India by American advanced students and by faculty specializing in various aspects of Indian civilization and contemporary affairs. The University also maintains close links with a number of research agencies, programs, and institutions of higher learning, such as the Deccan College Linguistic Program and the Department of Linguistics, Delhi University. Staff members of these institutions have provided valuable assistance to Cornell students working in India. There are opportunities for graduate students to become associated with Cornell-sponsored research in South Asia or to carry on independent research abroad. Every effort is made by the Program staff to aid qualified students to obtain financial support for a field training or research project in one of the countries of the area.

Research interests under the South Asia Program are focused largely on recent or contemporary developmental problems of the countries of the area — on changes taking place in the economic, political, social, religious, artistic, and intellectual life of the region. A long-term research project in progress in India is primarily concerned with the ramifying problems of introducing technological changes and the influence of such changes when adopted. For this research program, faculty and students in anthropology have carried on, since 1949, an

extended and varied series of rural and urban community studies in several different regions of India from the Deccan into the Himalayan foothills. A major related project, the Cornell International Agricultural Development Program, which is supported by Ford Foundation funds, is concerned with the development of the entire agricultural sector of the Indian economy. With Ford Foundation support, Cornell is assisting Delhi University to become a major center in the field of linguistics. At the same time, other studies in urban renewal and regional planning, public administration, the role of government in cultural change, and recent movements in the arts and in religions and ideologies are in progress under faculty direction. Cornell is also making a special study of the Sinhalese language and of linguistic problems of Ceylon, a nation so far much neglected by American scholars. Research is also under way on Oriya and Telugu, important regional languages of India. The new nations of South Asia present so many problems for study that the areas of inquiry open to students and staff members are limited only by availability of research means.

FELLOWSHIPS AND ASSISTANTSHIPS

Fellowship and assistantship awards are available to qualified graduate students minoring in Asian Studies with a concentration on South Asia. The South Asia Program fellowships are open to incoming graduate students with South Asia interests. Stipends range up to \$2,500 plus tuition and fees and should be applied for by writing to the Director, South Asia Program, 221 Morrill Hall. Students in the South Asia Program are also eligible for assistantships in their major discipline departments, for fellowships and scholarships offered by the Cornell Graduate School, for National Defense Foreign Language fellowships, and for Foreign Area Training fellowships. Additional information on financial aid may be obtained by writing to the Director, at the address given above.

Southeast Asia Program

FACULTY: Arch T. Dotson, John M. Echols, Frank H. Golay, Alexander B. Griswold, Robert B. Jones, Jr., George McT. Kahin, Stanley J. O'Connor, Robert A. Polson, Lauriston Sharp, James T. Siegel, John U. Wolff, O. W. Wolters.

The Southeast Asia Program possesses substantial facilities for study and research on the graduate level and provides exceptional opportunities for general or specialized work on all of Southeast Asia in various disciplines of the humanities, social sciences, and some natural sciences, as well as in interdisciplinary area seminars. Instruction in the major languages of the area is an integral part of the graduate training of the Southeast Asia Program. Much basic and pioneering research remains to be done in this area, and the Southeast Asia Program is organized and equipped to help meet such needs.

Special intensive instruction in Southeast Asian languages is avail-

able during summer sessions. Entering graduate students intending to study one of these languages are encouraged to begin such study during the summer preceding registration in the Graduate School. Inquiries should be made as early as possible to the Director of the Southeast Asia Program.

Southeast Asia Program fellowships are available on a competitive basis to graduate students. They carry stipends of up to \$3,200 plus tuition and fees, and are available only to qualified candidates for advanced degrees at Cornell. Competition for these awards is open to citizens of the United States or Canada, nationals of Southeast Asian countries, and, in exceptional cases, nationals of other countries.

The fellowships are available to applicants who are able to demonstrate a serious scholarly interest in Southeast Asian studies; who show the greatest promise of becoming qualified regional experts with specialization in a relevant discipline of the humanities, social sciences, or certain natural sciences; and who are admitted to the Cornell Graduate School for advanced work in such a discipline. Previous experience in Southeast Asia or in the study of that area is not necessarily required. It is important that the applicant be able to show that advanced work in a major subject offered at Cornell, combined with work in the Southeast Asia Program, will make his future professional activities more effective; this requirement is particularly important for a student in the natural sciences.

Fellowships are normally awarded for one academic year. If the student's work during the first year has been of high caliber, reappointment is sometimes possible. In such cases, formal reapplication is expected from the student. The primary purpose of these awards is to encourage graduate students to acquire a substantial knowledge of Southeast Asia while majoring in one of the discipline Fields of the Graduate School. Accordingly, they are usually offered only to students who take a minor in Asian Studies and participate fully in the Southeast Asia Program. The recipient of a fellowship may be asked to devote up to six hours a week under faculty supervision to work connected with the Program.

London-Cornell Studentships are available for advanced Ph.D. candidates in the social sciences and in the humanities who have already had at least one year of resident study in the Southeast Asia Program. These fellowships are tenable for study during an academic year at the School of Economics and Political Science or the School of Oriental and African Studies in the University of London. Stipends range up to \$3,000 plus air fares and tuition and fees. London-Cornell Field Research Grants are open to Southeast Asia Program Ph.D. candidates in the social sciences and humanities after they have had appropriate training at Cornell, or at Cornell and London. They are tenable for up to twenty-two months for the purpose of dissertation research. Recipients of London-Cornell Field Research Grants may conduct research in any part of Southeast Asia. Stipends range up to \$12,000 for twenty-two months including travel and research expenses.

Cornell-Philippines Field Research Fellowships are available, under a grant from the Rockefeller Foundation, for advanced graduate

students who plan to write dissertations in the social sciences or the humanities, based upon field research in the Philippines. Fellowship support is for ten to fifteen months in the Philippines and includes living costs, local transport, and roundtrip transportation from the United States for the graduate student and dependent wife or husband.

National Defense Foreign Language Fellowships, Title VI, are offered by the United States Office of Education for study during the academic year, the summer, or both. Application should be made to Sage Graduate Center, Cornell University. Information about Foreign Area Training fellowships, administered by the Social Science Research Council, may be obtained by writing to the Foreign Area Fellowships Program, 444 Madison Avenue, New York, New York 10022. Graduate students may also apply for other fellowships, teaching fellowships, assistantships, and scholarships offered by the University and its departments.

Additional information on the Program and the various fellowships and awards may be obtained by writing to the Director, Southeast Asia Program, 108 Franklin Hall.

Soviet Studies

COMMITTEE ON SOVIET STUDIES: George Gibian, Chairman; Urie Bronfenbrenner, M. Gardner Clark, Jack Fisher, Walter Galenson, Richard Leed, Walter Pintner, Myron Rush, George Staller.

OTHER FACULTY MEMBERS IN SOVIET STUDIES: Patricia Carden, Frederick Foos, Antonia Glasse, Martin Horwitz, Augusta Jaryc, Hugh Olmsted, Nicholas Troizkij, Marla Wykoff.

The University offers a number of courses and seminars on the Soviet Union as well as pre-1917 Russia. Instead of a separate area program, graduate students have a choice of majors and minors in the established Fields of the Graduate School. Some of the subjects focus on area specialization: Russian history, Russian literature, Slavic linguistics. Other subjects combine area specialization with a nonarea framework: comparative government, economic planning, regional planning, social psychology.

Graduate students pursuing Soviet Studies in any of these subjects are expected to attain proficiency in the Russian language either before entering the Graduate School or soon thereafter.

The University's academic activities related to Russia are coordinated by the Committee on Soviet Studies. The Committee also sponsors a colloquium for faculty members and graduate students in Soviet Studies. In the Soviet Studies Graduate Study in the John M. Olin Library, major reference works and key current periodicals from and about the U.S.S.R. are brought together.

The Committee on Soviet Studies selects a limited number of graduate students each year as research assistants. The Russian section of the Division of Modern Languages and the Department of Russian Literature also appoint several graduate students annually as teaching

fellows in the Russian language. For other teaching fellowships, fellowships and scholarships, students apply directly to the Graduate School or to the department concerned. N.D.E.A. Title IV and Title VI fellowships are available in various subjects.

FACULTY SPECIALIZATIONS

ECONOMICS: M. Gardner Clark, Walter Galenson, George J. Staller.

HISTORY: Walter M. Pintner.

LANGUAGES AND LINGUISTICS: Frederick Foos, Richard Leed, Mrs. Augusta Jaryc, Hugh Olmstead, Marla Wykoff.

LITERATURE: Miss Patricia Carden, George Gibian, Miss Antonia Glasse, Martin Horwitz, Hugh Olmstead.

POLITICAL SCIENCE: Myron Rush.

PSYCHOLOGY: Urie Bronfenbrenner.

REGIONAL AND CITY PLANNING: Jack C. Fisher.

Inquiries about fellowships and other aspects of Soviet Studies should be addressed to Professor George Gibian, Chairman, Committee on Soviet Studies, Goldwin Smith Hall.

OTHER PROGRAMS AND CENTERS

American Studies

COMMITTEE ON AMERICAN STUDIES: David B. Davis, Chairman; Stuart M. Brown, Jr., Douglas E. Dowd, Robert H. Elias, Andrew Hacker, Clinton Rossiter, S. Cushing Strout, Robin M. Williams, Jr.

Although there is no formal program leading to a degree in American Studies, candidates for the doctorate in English and History will find ample opportunity to do interdisciplinary work in conjunction with a major in the American area of their Field. There are members of the staff in both Fields who are professionally trained and currently active in the study of the interrelationships of American intellectual, literary, and social history, so that a student concentrating in American literature or American history may take advantage of the freedom permitted by Graduate School regulations and, in collaboration with his special committee, readily build an individual doctoral program that systematically embraces more than a single discipline. Inquiries concerning opportunities in this area should be addressed to Professor David B. Davis, Chairman, American Studies Committee, West Sibley Hall.

Brookhaven National Laboratory

Cornell is one of nine eastern universities participating in Associated Universities, Inc. (AUI). Operating under contract with the Atomic Energy Commission, this corporation has the responsibility for the

management of Brookhaven National Laboratory. The laboratory provides unusual research facilities for studies in biology, chemistry, applied mathematics, medicine, physics, high-energy particle physics, and reactor and nuclear engineering.

Graduate students may participate in research at Brookhaven by association with Cornell staff members who are engaged in research at the laboratory. Members of a variety of science departments at Cornell are currently involved in programs at Brookhaven. The laboratory also offers temporary summer appointments to a limited number of selected graduate and undergraduate students in science or engineering.

Center for Advancement of Education

The Center for Advancement of Education represents the commitment of the total University to educational research and development. Members of the Center are drawn from various academic units. Projects are carried out under the auspices of the Center; such projects may increase to reflect the interests of faculty members. At present, research programs in language development and literacy, in mathematics, and in science education are under way. In addition, a research program on the administration of higher education as well as on the undergraduate collegiate curriculum are being planned.

The Center provides predoctoral and postdoctoral training through research assistantships, training grants, and postdoctoral fellowships. For information write to the Director, Center for Advancement of Education, 320 Wait Avenue.

Center for Aerial Photographic Studies

Photographic interpretation has applications in agriculture, engineering, geology, and city and regional planning. The Center for Aerial Photographic Studies offers a broad program in various scientific fields for training personnel in aerial photographic interpretation. The objectives are, first, to train scientists who will be able to use aerial photographs for surveys and planning in fields where they are needed and second, through research to extend the use of aerial photographs into all fields which can be benefitted.

The Center comprises a staff of educators, scientists, and technicians experienced in research and the application of aerial photographs to their respective fields. The program consists of primary courses in interpretation of aerial photographs, map reproduction, photogrammetry, cartography and map projections, together with specialized study in a particular field of the candidate's choice, such as agricultural development, national resource explorations, city planning, or engineering project planning.

For more information, write to Professor Donald J. Belcher, Director, Center for Aerial Photographic Studies, Hollister Hall.

Center for Housing and Environmental Studies

The purposes of the Center for Housing and Environmental Studies are to aid and guide basic research in the field of man's shelter and environment, to facilitate graduate study, and to aid the flow of information among colleges and departments and between the University and sources of information off campus. A small central staff assists in the initiation and conduct of projects.

The facilities of the Center for Housing and Environmental Studies are available to faculty members and graduate students in all Fields. Through the Center, students who cut across traditional lines of research may draw upon the knowledge and experience of specialists in such various subject areas as design, materials, equipment, structural methods, environment, family living, economics and finance, government, and health. The Director of the Center is Professor Glenn H. Beyer, West Sibley Hall.

There are two divisions in the Center, one focusing on urban and the other on regional problems. The Division of Urban Studies is under the direction of Professor Barclay G. Jones, Associate Director of the Center, West Sibley Hall; and the Division of Regional Studies is under the direction of Professor Jack C. Fisher, Assistant Director of the Center, West Sibley Hall.

Center for Radiophysics and Space Research

The Center for Radiophysics and Space Research unites research and graduate education carried on by several academic departments in the space sciences. It furnishes administrative support and provides facilities for faculty members and graduate assistants who are engaged in space research activities, and it offers opportunity for graduate students to undertake thesis work leading to the degrees of Master of Science and Doctor of Philosophy. A student's major professor can be chosen from the following Fields in the Graduate School: Aerospace Engineering, Applied Physics, Astronomy and Space Sciences, Electrical Engineering, Physics.

Thesis research in the following areas is now possible:

(a) Astronomy and Astrophysics. Astronomical aspects of cosmic rays, gamma-radiation, x rays, neutrinos; cosmology; experimental studies and theory relating to the surface of the moon and the planets; processes in the interstellar gas; solar-system magnetohydrodynamics; stellar statistics; theory of stellar structure, stellar evolution, nuclear processes in stars.

(b) Atmospheric and Ionospheric Radio Investigations. Dynamics of the atmosphere; incoherent electron scattering; study of refraction, scattering, attenuation due to the inhomogeneous nature of the troposphere and ionosphere; theory and observation of propagation of radio waves in ionized media such as the ionosphere.

(c) Radar and Radio Astronomy. Distribution and classification of radio sources; radar investigations of the moon and planets; solar radio observations; studies of gaseous nebulae.

(d) Space Vehicle Instrumentation. Instrumentation relating to lunar exploration; magnetic field measurements; tenuous gas and particle flux measurements; infrared observations from rockets.

The facilities of the Center include the lunar surface and electronics laboratory on the Cornell campus, the radio astronomy and ionospheric laboratories close to Ithaca, and the Arecibo Ionospheric Observatory in Puerto Rico. At Arecibo an extremely sensitive radio telescope and an unusually powerful space radar are available for use by qualified graduate students. In addition, certain facilities of Sydney University, Australia, are available through the Cornell-Sydney University Astronomy Center (see below).

Cornell-Sydney University Astronomy Center

The Center is an inter-University organization designed to create a larger pool of facilities and skills for research in astronomy and related fields than would be separately available to either university. Graduate students can be interchanged between the two institutions whenever appropriate for the research work in which they are engaged. Both universities recognize research supervision extended by the sister university, and the time spent by a student on thesis work in the sister university can be accepted toward residence requirements with the proviso that the approval of the home research supervisor is given and also that the home university bylaws are not contravened.

The facilities available through the Center, in addition to those of Cornell's Center for Radiophysics and Space Research, are the one-mile by one-mile Mills Cross situated at Hoskinstown, New South Wales; the stellar intensity interferometer situated at Narrabri, New South Wales; the Criss-Cross, the Shain Cross, and Mills Cross situated at Fleurs, New South Wales; the Wills Plasma Physics Department, the Basser Computing Department, the Falkner Nuclear Department, and the facilities of the cosmic ray group at the University of Sydney. The Center includes H. Messel, R. Hanbury Brown, W. N. Christiansen, C. B. A. McCusker, and B. Y. Mills from the University of Sydney faculty.

Further information can be obtained from Professor T. Gold, Joint Director, Cornell-Sydney University Astronomy Center, Space Science Building.

Division of Biological Sciences

The Division of Biological Sciences was established in 1964 to bring together into a single administrative unit a number of investigators and teachers representing a broad spectrum of interests in basic biology. Its members hold appointments in one or more of four schools and colleges but serve the University as a whole through the Division. The

Division is responsible for all the undergraduate teaching of biology, including the establishment of requirements for the major in its various branches. It also has the primary responsibility for the promotion of research in basic biology, and its members engage in graduate teaching through participation in appropriate Fields in the Graduate School Faculty. At present the following subject areas are represented by separate sections of the Division: biochemistry and molecular biology; ecology and systematics; genetics, development, and physiology; microbiology; and neurobiology and behavior. A number of graduate fellowships, teaching fellowships, research assistantships, and traineeships are available through the Division. For further information, contact Dr. Robert Morison, 201 Roberts Hall.

Materials Science Center

The Materials Science Center (MSC) at Cornell is an interdisciplinary laboratory created to promote research and graduate student training in all phases of the science of materials. The subjects of study represented in the MSC program are applied physics, chemistry, electrical engineering, materials engineering, materials science, metallurgy, and physics.

The extent of the benefits a graduate student may derive from the MSC program depends on the actual research he pursues. If the student chooses to follow the more conventional course of becoming a specialist in one specific area, the MSC program could help him by providing new equipment, financial assistance through research assistantships, or, in some cases, the help of a technician to carry out routine measurements.

If the student wishes to follow a program of considerably more breadth than usual in his research training, the MSC program provides an additional advantage. Several central facilities have been set up where more specialized apparatus such as crystal-growing furnaces, high-pressure equipment, x ray and metallography equipment, electron microscopes, etc., are available to all MSC members and their students. In addition to the equipment, expert advice on its use and the interpretation of the results will be available. In these central facilities, it is expected that the student will come in contact with students from other disciplines, resulting in a mutually profitable interaction.

The office of the Director of the Materials Science Center, Professor Henri Sack, is in Room 627, Clark Hall.

Military Science, Naval Science, and Aerospace Studies

(ROTC, NROTC, and AFROTC)

The advanced course in military science (Army ROTC), naval science (Naval ROTC), and aerospace studies (Air Force ROTC) is open to

graduate students who have satisfactorily completed a basic course in ROTC or who enroll in a two-year ROTC program. Successful completion of the two-year advanced ROTC course will qualify a graduate student for appointment as a Second Lieutenant in the U.S. Army, Air Force, or Marine Corps Reserve; or Ensign, U. S. Naval Reserve; or as Second Lieutenant in the Regular Army or Air Force. Interested graduate students should consult the *Announcement of Officer Education* and apply to the Professor of Military Science, the Professor of Naval Science, or the Professor of Aerospace Studies (ROTC), Barton Hall.

Statistics Center

The methods of statistics find important applications in many diverse fields of research. It is therefore necessary that (1) subject matter specialists be able to obtain assistance in using or developing statistical theory, (2) students who intend to do research work in a particular field which makes extensive use of statistical methods receive adequate training in statistics, and (3) individuals be trained as statisticians.

The staff members of the various schools and colleges of Cornell University who are interested in the development and application of statistical methods are associated with the Cornell Statistics Center. A major responsibility of the Center is to provide a focal point to which individuals, projects, and departments may come to receive assistance and guidance with respect to the statistical aspects of research and training programs.

The Acting Director of the Center is Professor Philip J. McCarthy, Ives Hall.

Water Resources Center

The Center is an interdisciplinary organization serving the entire University at the graduate study and research level. Its purpose is to promote and coordinate a comprehensive program in water resources planning, development, and management in such areas as the sciences, engineering, agriculture, law, economics, government, regional planning, and public health.

Its responsibilities are to undertake water resources research in engineering, in the physical, biological, and social sciences, and in the humanities; to encourage and contribute to graduate studies in water resources; to coordinate research and training activities in areas concerned with water resources; to encourage new combinations of disciplines in research and training which can be brought to bear on water resources problems; to disseminate the results of research; and to develop and operate central facilities which may be needed to serve participants in research and training.

Correspondence concerning the Center should be directed to Professor L. B. Dworsky, Director, Water Resources Center, Hollister Hall.

Correspondence related to graduate study in the Field of Water Resources should be directed to the Field Representative, Professor C. D. Gates, Hollister Hall.

SPECIAL FACILITIES AND SERVICE ORGANIZATIONS

Cornell Aeronautical Laboratory

The Laboratory, a separate corporation wholly owned by Cornell University, is in Buffalo, New York. Applied and fundamental research in the aeronautical sciences and allied areas is conducted in this completely equipped laboratory under contracts mainly with government and industry. Close relationships, both research and educational, are maintained with the campus in Ithaca.

New York State Agricultural Experiment Station at Geneva

The New York State Agricultural Experiment Station was established in 1880 to promote agriculture through scientific investigations and experimentation. It is located at Geneva, fifty miles from Ithaca, and has been under the administration of Cornell University since 1923.

Professors on the Geneva staff are eligible to serve as members of the Special Committees of graduate students along with professors on the Ithaca campus of the University. Normally the graduate training provided at Geneva consists of research experience and supervision of the student's work on a thesis problem. The formal course work part of the student's training program is given on the Ithaca campus. Students who plan to do part of their graduate work at Geneva should correspond with their major advisers or with the Dean of the Graduate School concerning regulations as to residence, Special Committees, etc.

The Station is equipped to care for graduate students in certain specific lines of research, viz., bacteriology, chemistry, economic entomology, food technology, plant pathology, pomology, seed investigations, and vegetable crops. Ample facilities are available for graduate research under laboratory, greenhouse, pilot plant, insectary, orchard, and other field conditions.

Certain phases of the investigations now being conducted at the Station and other problems for which the facilities of the Station are suitable may be used as thesis problems by graduate students.

The Director is Professor D. W. Barton, who may be addressed at the New York State Agricultural Experiment Station, Geneva.

Office of Computer Services

The principal computing facility at Cornell is an IBM 360 Model 65 located at Langmuir Laboratory at the Cornell Research Park. The system is equipped for remote access of several kinds, and the operating system is designed so that very few users find it necessary to visit Langmuir. The primary terminals are high-speed reader-printers located in Upson, Clark, and Warren Halls. While these are remote job-entry and delivery devices rather than conversational terminals, they permit convenient access, job turnaround-time in terms of minutes, and the use of on-line files. Each of these terminals is the core of a small computing center, with auxiliary equipment, consulting assistance, reference material, and work space. In addition to these high-speed terminals, teletypewriter terminals are available to individual projects that require interactive capability.

Two IBM 1800 computers that control various real-time laboratory devices are also linked directly to the 360/65. These machines provide graphical input-output capability and an analog-digital interface.

This computing system is busy but not saturated, and use by graduate students is encouraged.

The Office of Computer Services is responsible for the operation of this system and for the provision of consulting and programming assistance. The Office cooperates with the Department of Computer Science in providing courses in programming and computing techniques. Both organizations employ a number of graduate students on assistantships and part-time appointments for this work.

For further information write to the Office of Computer Services, Langmuir Laboratory.

Photo Science Studios

The University owns and operates the Photo Science Studios, which create or cooperate in the creation of photographic studies and visual aids of all kinds.

The extension services of the New York State Colleges, which form integral parts of the University, disseminate knowledge through an intensive program of publication, photography, and recording supervised by professional staffs. Materials produced by graduate students may find outlets through these channels.

University Press

Cornell University Press, founded by Andrew D. White in 1869, was the first university press in America and is among the leaders in number of volumes published annually. The Press publishes scholarly books on nearly every academic subject, serious nonfiction of general interest, and advanced or experimental textbooks for use in universities. The imprint of Comstock Publishing Associates, a division of the Press, is

placed on certain books in the biological sciences. The Press also publishes a distinguished paperbound series, Cornell Paperbacks.

Other Research Units

Some other research units allied with the University, either as wholly owned and operated divisions or as wholly or partially autonomous organizations with which the University has a working agreement, are the Sloan-Kettering Cancer Research Institute in New York City, through the Graduate School of Medical Sciences, and the Veterinary Virus Research Institute in Ithaca.

Cornell is also one of fourteen founding members of the University Corporation for Atmospheric Research which, under National Science Foundation support, operates the National Center for Atmospheric Research at Boulder, Colorado.

In addition, opportunities for formal study, field work, and independent research by Cornell graduate students are available in many institutions, laboratories, and libraries both in the United States and in other countries. For example, the Cornell-Harvard Archaeological Exploration at Sardis, Turkey, and the Museum of Northern Arizona at Flagstaff, Arizona, both provide opportunities for field research related to doctoral work of Cornell graduate students. Information on that kind of arrangement is available directly from the Field Representatives.

FIELDS OF INSTRUCTION

REPRESENTATIVES. Since instruction in the Graduate School is primarily individual, those interested in becoming students are encouraged to communicate with individual members of the faculty with whom they may want to study. Personal interviews in advance of formal application for admission are especially encouraged. For the benefit of those who are not acquainted with appropriate members in the Field or Fields of their interest, each Field has selected a representative as director of graduate studies to whom inquiries may be addressed.

AGRICULTURAL ECONOMICS

Faculty: David J. Allee, Richard D. Aplin, Randolph Barker, Solon L. Barraclough, C. Arthur Bratton, Earl H. Brown, Max E. Brunk, David L. Call, George L. Casler, Howard E. Conklin, George J. Conneman, Jr., Lowell C. Cunningham, Rachel Dardis, Lawrence B. Darrah, Bennett A. Dominick, Jr., Wendell G. Earle, Olan D. Forker, Donald K. Freebairn, Dana C. Goodrich, Jr., Glenn W. Hedlund, R. Brian How, Robert J. Kalter, C. Del Mar Kearl, Clifton W. Loomis, Edward A. Lutz, John W. Mellor, Joseph F. Metz, Jr., Daniel I. Padberg, Thomas T. Poleman, Kenneth L. Robinson, Daniel G. Sisler, Robert S. Smith, Bernard F. Stanton, Robert P. Story, William G. Tomek, Ronald J. Vogel, Stanley W. Warren.

Visiting Professor, Spring 1968: Keith O. Campbell, Professor of Agricultural Economics, University of Sydney.

Field Representative: William G. Tomek, 40 Warren Hall.

MAJOR AND MINOR SUBJECTS

Agricultural Economics
Farm Management and Production
Economics
International Economics and
Development

Marketing and Food Distribution
Policy and Prices
Public Administration and Finance
Resource Economics

The Field offers graduate training leading to the Master of Science and Doctor of Philosophy degrees. The emphasis of the graduate program is on training for independent study and research at the Ph.D. level. However, a terminal M.S. program may be designed to prepare the individual for a career with agriculturally related businesses, in cooperative extension, and in related areas. The intent of the faculty is to make available high quality, flexible programs that recognize the needs of individual students.

Students with the objective of obtaining a Ph.D. are usually expected to obtain a Master's degree as the first step in their Ph.D. program. If the applicant has an outstanding scholastic record and strong preparation for graduate-level work in agricultural economics, then direct admission to a Ph.D. program may be considered.

One major and one minor are required for the M.S. degree. A candidate for the Ph.D. degree must have one major and two minors, one of which must be taken outside the Field.

ADMISSION REQUIREMENTS. To be considered for admission, each applicant must meet the minimum standards of the Cornell Graduate School

All applicants are urged to take the Graduate Record Examination Aptitude Test; it is essential for fellowship applicants. An undergraduate major in agricultural economics is not required, but strong motivation to do graduate work in this field is expected.

LANGUAGE REQUIREMENT. No foreign languages are required by the Field for either the M.S. or the Ph.D. degree. However, a knowledge of one or more foreign languages is sometimes a prerequisite to acceptable professional work. The student's Special Committee members may set such language requirements as they deem necessary.

EXAMINATIONS. The Field requires only the examinations required by the Graduate School. However, a written examination in agricultural economics is required of Ph.D. students as a part of their Admission to Candidacy Examination.

RESEARCH AND STUDY OPPORTUNITIES. The student may pursue research in any of the areas suggested by the major subjects. Other faculty interests include agricultural cooperatives, agricultural geography, business management, farm finance, international trade, regional agricultural development, and quantitative methods as applied to problems in agricultural economics. Within the area of economic development, staff members have special interests in Latin America, South Asia, Southeast Asia, and tropical agriculture.

The primary subject matter interests of the faculty are as follows: Farm management and production economics: Professors Barker, Bratton, Casler, Conklin, Conneman, Cunningham, Kearl, Loomis, Smith, Stanton, Warren. International economics and development: Professors Barraclough, Freebairn, Mellor, Poleman. Marketing and food distribution: Professors Aplin, Brown, Brunk, Call, Darrah, Dominick, Earle, Forker, Goodrich, Hedlund, How, Metz, Padberg, Story. Policy and prices: Professors Dardis, Robinson, Sisler, Tomek. Public administration and finance: Professors Lutz and Vogel. Resource economics: Professors Allee and Kalter.

FINANCIAL ASSISTANCE. Research assistantships and teaching fellowships provide an opportunity for part-time employment in teaching, research, or extension. Thesis research is often conducted as a part of assistantship duties in connection with research projects supervised by the staff. Offers of assistantships and teaching fellowships are made by Professor G. W. Hedlund, Head of the Department of Agricultural Economics. Students with exceptional academic records are urged to apply for fellowships offered by Cornell University and by the State of New York. The closing date for receipt of applications for New York State Regents fellowships is December 1 and for Cornell University fellowships is February 1.

Courses

The following list of graduate-level courses in the Field is for the general information of the applicant. Specific information on time, location, and content of these courses is provided in the *Announcement of the College of Agriculture*. Attention is also directed to course offerings in Economics, Statistics, and other related Fields.

402. FARM MANAGEMENT

Spring term. Credit three hours. Prerequisite: Agricultural Economics 302 or its equivalent. Professor Cunningham.

403. FARM COST ACCOUNTING

Fall term. Credit three hours. Prerequisite: Agricultural Economics 302. Professor Kearn.

405. FARM FINANCE

Spring term. Credit three hours. Prerequisite: Agricultural Economics 302. Professor Smith.

406. FARM APPRAISAL

Fall term. Credit three hours. Prerequisite: Agricultural Economics 302. Professor Warren.

408. PRODUCTION ECONOMICS

Spring term. Credit three hours. Prerequisites: Economics 103-104. Assistant Professor Casler.

441. FOOD DISTRIBUTION

Fall term. Credit four hours. Prerequisites: Agricultural Economics 240 and 327. Professor Earle.

443. FOOD INDUSTRY MANAGEMENT

Spring term. Credit four hours. Prerequisite: Agricultural Economics 441. Professor Earle.

445. FIELD STUDY OF FOOD INDUSTRIES

Spring term. Credit two hours. Registration by permission. Mr. German.

450. RESOURCE ECONOMICS

Fall term. Credit two hours (three hours with supplemental work). Prerequisites: Economics 103 and Conservation 201 or consent of instructor. Associate Professor Allee.

452. REGIONAL AGRICULTURAL ANALYSIS

Spring term. Credit four hours. Prerequisites: Agricultural Economics 150 and 302 which should precede or accompany this course. Professor Conklin.

464. ECONOMICS OF AGRICULTURAL DEVELOPMENT

Spring term. Credit three hours. Prerequisite: Agricultural Economics 150 or Economics 103-104 or consent of instructor. Professor Mellor.

500. FARM ORGANIZATION IN THE UNITED STATES

Fall term. Credit three hours. Enrollment limited to graduate students from countries other than the United States and Canada. Professor Warren.

507. RESEARCH IN FARM MANAGEMENT

Fall term. Credit two hours. Professor Stanton.

508. QUANTITATIVE METHODS IN PRODUCTION ECONOMICS

Fall term. Credit three hours. Professor Robinson.

515. APPLIED ECONOMETRICS IN AGRICULTURAL ECONOMICS

Spring term. Credit three hours. Prerequisite: preparation in economics and statistics at the level of Economics 311-312 and ILR 311 (Statistics II). Associate Professor Tomek.

50 AGRICULTURAL ECONOMICS

540. INTRODUCTION TO MARKETING RESEARCH

Spring term. Credit two hours. Professor Brunk.

541. FOOD MERCHANDISING AND PROMOTION

Fall term. Credit two hours. Professor Brunk.

548. QUANTITATIVE METHODS IN AGRICULTURAL ECONOMICS

Spring term. Credit two hours. Those with no knowledge of computer programming will be required to attend an extra class session on a computer language for the first six weeks of the term and will receive an additional hour of credit. Professor How.

550. ECONOMIC ANALYSIS OF PUBLIC RESOURCE INVESTMENT

Spring term. Credit two hours. Prerequisite: Economics 311 or 511 or consent of instructor. Assistant Professor Kalter.

552. SPECIAL PROBLEMS IN LAND ECONOMICS

Fall or spring term. Credit one or more hours. Prerequisites: Agricultural Economics 452 and permission of the instructor. Professor Conklin and Associate Professor Allee.

560. ECONOMIC ASPECTS OF THE WORLD'S FOOD

Spring term. Credit three hours. Given in odd-numbered years. Prerequisites: basic economics and a course in economic development. Associate Professor Poleman.

626. SEMINAR IN AGRICULTURAL COOPERATION

Spring term. Credit two hours.

637. ADMINISTRATION OF PUBLIC AGRICULTURAL PROGRAMS

Spring term. Credit two hours. Professor Lutz.

641. MARKETING AND PRICING EFFICIENCY

Fall term. Credit three hours. Registration by permission. Associate Professor Forker.

642. MARKET ORGANIZATION AND STRUCTURE

Spring term. Credit three hours. Registration by permission. Associate Professor Padberg.

644. SEMINAR IN AGRICULTURAL LOCATION THEORY

Spring term of even-numbered years. Credit two hours. Professor How and Associate Professor Sisler.

646. SPECIAL PROBLEMS IN MILK MARKETING

Spring term. Credit two hours. Professors Aplin, Forker, and Story.

651. SEMINAR IN AGRICULTURAL POLICY

Spring term. Credit two hours. Professor Robinson.

652. PRINCIPLES OF RESEARCH IN AGRICULTURAL PRODUCTION ECONOMICS

Spring term. Credit three hours. Open only to students in a Ph.D. program. Professor Conklin.

653. REGIONAL ECONOMIC ANALYSIS

Fall term. Credit two hours. Open only to graduate students with permission of the instructor. Associate Professor Allee.

664. SEMINAR ON THE AGRICULTURAL DEVELOPMENT OF SOUTH ASIA

Spring term. Credit two hours. Open only to graduate students who have completed Agricultural Economics 464 or its equivalent. Professor Mellor.

665. SEMINAR ON LATIN AMERICAN AGRICULTURAL POLICY

Fall term. Credit two hours. Prerequisites: basic economics, a course in economic development, and permission of the instructor. A knowledge of Spanish or Portuguese is highly desirable. Associate Professor Freebairn.

667. SEMINAR ON THE ECONOMICS OF TROPICAL AGRICULTURE

Spring term. Credit three hours. Given in even-numbered years. Prerequisites: basic economics and a course in economic development. Associate Professor Poleman.

668. SEMINAR IN THE ECONOMICS OF AGRICULTURAL DEVELOPMENT

Fall term. Credit two hours. Open only to graduate students with permission. Professors Barraclough, Call, Conklin, Freebairn, Mellor, Poleman, Sisler, and other staff.

690. SEMINAR IN AGRICULTURAL ECONOMICS EXTENSION

Fall term. Credit two hours. Professor Bratton.

ANTHROPOLOGY

Faculty: Robert Ascher, Frank A. Cancian, Charles F. Hockett, Kenneth A. R. Kennedy, Bernd Lambert, William W. Lambert, Thomas F. Lynch, Morris E. Opler, John M. Roberts, Lauriston Sharp, James T. Siegel, Robert J. Smith, Judith M. Treistman, Terence S. Turner, Victor W. Turner, Arthur P. Wolf, Frank W. Young.

Visiting Faculty, 1967-1968:

Eliot D. Chapple (Rockland State Hospital)

Tom Harrisson (Sarawak Museum)

E. Michael Mendelson (University of London)

Marc J. Swartz (Michigan State University)

Field Representative: Kenneth A. R. Kennedy, 203 McGraw

MAJOR SUBJECT

Anthropology

MINOR SUBJECTS

Applied Anthropology

Archaeology

Physical Anthropology

Psychological Anthropology

Social Anthropology

MAJOR AND MINOR SUBJECTS. The Field strongly recommends that candidates seeking a career in anthropology elect the Ph.D. program, but M.A. candidates are occasionally accepted. Because the faculty conceives of its discipline as a unified field, only one major, anthropology, is offered.

Subdisciplinary specialization and area interests are indicated by minors (and also by the composition of the Special Committee, course concentrations, and research and thesis projects). The Field requires that an M.A. candidate take one minor and that a Ph.D. candidate select two minors. Candidates for higher degrees in anthropology have often incorporated minors in Asian studies, social psychology, Latin American studies, sociology, government, history, economics, and in many other fields of the Graduate School into their programs to meet their special professional aims.

ADMISSION REQUIREMENTS. A faculty committee of the Field, with the Field Representative as Chairman, evaluates all applications for admission to advanced work and for awards. All applicants resident in the United States during the year preceding matriculation at Cornell must submit the scores of the Graduate Record Examination Aptitude Test with their other credentials. Those who are accepted, but who do not reside in the United States at the time of application, must submit scores by the close of their first year at Cornell.

The Field of Anthropology requires that a candidate for a higher degree demonstrate a thorough reading knowledge of one language other than English. The foreign language offered in fulfillment of this requirement may be any one which, in the judgement of the candidate's Special Committee, will further his research and professional competence. This is the minimum language requirement of the Field; a student's Special Committee may require a mastery of additional languages or a greater degree of language competence.

Research and Study Opportunities

The special interests and competence of a large faculty permit a full and varied curriculum for graduate students. New, modern laboratory facilities have given impetus to instruction and research in archaeology and physical anthropology. Some of the lines of inquiry and training available, and the faculty members primarily associated with them, are as follows:

African studies: M. J. Swartz, V. W. Turner.

American Indian: F. A. Cancian, C. F. Hockett, M. E. Opler, J. M. Roberts.

Anthropological history and theory: K. A. R. Kennedy, B. Lambert, M. E.

Opler, R. J. Smith, V. W. Turner.

Applied anthropology and culture change: L. Sharp, R. J. Smith.

Archaeology: R. Ascher, T. F. Lynch, J. M. Treistman.

Chinese studies: J. M. Treistman, A. P. Wolf.

Comparative religion: M. E. Opler, L. Sharp, J. T. Siegel, V. W. Turner.

Cross-cultural studies: W. W. Lambert, J. M. Roberts, F. W. Young.

Expressive culture (art, folklore, literature, games, models): M. E. Opler, J. M. Roberts, R. J. Smith, T. S. Turner, V. W. Turner.

Japanese studies: R. J. Smith.

Latin American studies: F. A. Cancian, T. S. Turner, F. W. Young.

Legal anthropology: J. M. Roberts, V. W. Turner.

Linguistics: C. F. Hockett.

Oceania: B. Lambert, L. Sharp.

Physical anthropology: R. Ascher, K. A. R. Kennedy.

Political anthropology: J. M. Roberts, L. Sharp, T. S. Turner, V. W. Turner.

Primitive economics: F. A. Cancian, J. T. Siegel.

Psychological anthropology: W. W. Lambert, M. E. Opler, J. M. Roberts, A. P. Wolf.

Social organization: F. A. Cancian, B. Lambert, L. Sharp, T. S. Turner, V. W. Turner.
 South Asian studies: K. A. R. Kennedy, M. E. Opler.
 Southeast Asian studies: T. Harrison, E. M. Mendelson, L. Sharp, J. T. Siegel.

Courses

(GRADUATE SEMINARS AND UPPER DIVISION COURSES OF PARTICULAR INTEREST TO GRADUATE STUDENTS.)

[415-416. SURVEY OF ANTHROPOLOGICAL THEORY]

Throughout the year. May be taken either term or both terms. Credit four hours a term. M W F. Mr. Opler. Not offered in 1967-68.

423. COMPARATIVE SOCIAL SYSTEMS

Fall term. Credit four hours. M W F 2:30. Mr. Swartz.

Topics will include the comparative study of systems of kinship, politics, religion, and magic in preliterate societies, and the relationship between these types of systems in particular societies; age and sex differentiation; age-sets and age-grades; division of labor, types of specialization, occupational associations; rank and occupation; social classes, caste, slavery, pawnship, and serfdom; secret associations; social networks and social mobility. References will also be made to relevant theories.

[424. FOLKLORE AND CULTURE]

Spring term. Credit four hours. M W F 3:35. Mr. V. Turner. Not offered in 1967-68.

[426. THE CONTENT OF CULTURE]

Spring term. Credit four hours. Hours to be arranged. Mr. Roberts. Not offered in 1967-68.

[427. CONSTANTS AND VARIABLES IN CULTURE]

Fall term. Credit four hours. M W F 2:30. Mr. Roberts. Not offered in 1967-68.

430. ETHNOLOGY OF NORTH AMERICA

Spring term. Credit four hours. Prerequisite: Anthropology 101 or 301, or consent of the instructor. M W F 3:35. Mr. Roberts.

A general survey of the ethnography of North America, with emphasis on problems and topics to which the North American materials are most relevant. Selected cultures will be considered in some detail.

[432. ETHNOLOGY OF MIDDLE AND SOUTH AMERICA]

Spring term. Credit four hours. M W F 9:05. Mr. T. Turner. Not offered in 1967-68.

434. ETHNOLOGY OF MAINLAND SOUTHEAST ASIA

Spring term. Credit four hours. M W F 9:05. Mr. Mendelson.

The development and distribution of major cultural systems in mainland Southeast Asia. Discussion of selected groups in southern China, Assam, Burma, Thailand, Laos, Cambodia, and Vietnam, and of the fate of traditional cultural characteristics following the expansion of Chinese, Indian, Moslem, and Western civilizations into these areas.

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435. ETHNOLOGY OF ISLAND SOUTHEAST ASIA

Fall term. Credit four hours. M W F 1:25. Mr. Siegel.

A survey of cultures of Indonesia, Malaysia, and the Philippines with attention focused on social organization, rituals, beliefs, and forms of cultural expression. Selected societies will be studied in some detail.

436. ETHNOLOGY OF AFRICA

Spring term. Credit four hours. M W F 2:30. Mr. Swartz.

A social and cultural survey of representative African peoples. Stress is laid on the comparative study of political institutions and local descent groups. Ritual beliefs and practices are considered in relation to repetitive and radical change.

438. ETHNOLOGY OF OCEANIA

Spring term. Credit four hours. M W F 12:20. Mr. B. Lambert.

A survey of native cultures of Polynesia, Micronesia, Melanesia, and Australia with emphasis on topics of general interest to social anthropologists. The settlement and prehistory of the area will also be discussed.

[441. CULTURE AND SOCIETY IN SOUTH ASIA]

Fall term. Credit four hours. M W F 10:10. Mr. Opler. Not offered in 1967-68.

[443. CHINESE CULTURE AND SOCIETY]

Fall term. Credit four hours. M W F 3:35. Mr. Wolf. Not offered in 1967-68.

[445. JAPANESE CULTURE AND SOCIETY]

Fall term. Credit four hours. M W F 9:05. Mr. Smith. Not offered in 1967-68.

451. INTERPRETIVE ARCHAEOLOGY

Fall term. Credit four hours. Th 1:25-3:20. Mr. Ascher.

A discussion of the dual humanistic and scientific aims of archaeology and how they may be achieved. The nature of recognition, observation, classification, experiment, quantification, and analogy in archaeological inference. Critical evaluation of attempts to reconstruct events, systems of knowledge, personalities, economies, and societies. Examples are drawn from archaeology in contemporary as well as ancient communities. Laboratory and field work arranged where appropriate for individual projects.

452. SCIENCE IN ARCHAEOLOGY

Spring term. Credit four hours. Th 1:25-3:20. Mr. Ascher.

A multidisciplinary seminar focused on applications to archaeology of some aspects of science. Topics vary with the composition of the class, but they can include applications drawn from the biological, physical, geological, material, or computer sciences; mathematics, statistics, and engineering. Attention is given to archaeological thought and to accomplishments in science and technology (e.g., Stonehenge) of peoples known from archaeological data. Class readings include examples of applications (e.g., radiocarbon dating) and collaborative approaches to classic problems (e.g., emergence of food-producing communities). Laboratory and field work on the design and construction of experimental archaeological sites.

466. TECHNOLOGY

Spring term. Credit four hours. M W F 1:25. Miss Treistman.

A topical study of primitive arts and industries; the history of techniques and the history of technological studies. Examples will be ethnological and archaeological.

471. PHYSICAL ANTHROPOLOGY LABORATORY

Fall term. Credit four hours. Prerequisites: Anthropology 102, 202, 304, or 372; or Biological Sciences 101-102, 103-104, 210, 270, 280, 301, 311, 361, or 362; or consent of the instructor. Th S 10:10-12:05. Mr. Kennedy.

Methodology of field and laboratory analysis of human biological variation. Practical exercises in the techniques of human biometrics, serology, comparative primate anatomy, growth and development studies, and interpretation of the hominid fossil record.

497. TOPICS IN ANTHROPOLOGY

Either term. Credit two hours. Prerequisite: consent of the instructor. Hours to be arranged. Staff.

498. TOPICS IN ANTHROPOLOGY

Either term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Staff.

COMPARATIVE RURAL SOCIETIES (Rural Sociology 420)

Fall term. Credit three hours. Prerequisite: a course in general sociology or anthropology. M W F 11:15. Mr. Young.

GRADUATE SEMINARS

[501. PROSEMINAR: THE SCOPE OF ANTHROPOLOGY]

Fall term. Credit four hours. Hours to be arranged. Mr. Sharp and staff. Not offered in 1967-68.

[502. SEMINAR: FIELD RESEARCH]

Spring term. Credit four hours. Hours to be arranged. Mr. V. Turner and staff. Not offered in 1967-68.

507-508. SPECIAL PROBLEMS IN ANTHROPOLOGY

Throughout the year. Credit and hours to be arranged. Staff.

512. SPECIAL PROBLEMS IN ANTHROPOLOGY: BEHAVIORAL ANTHROPOLOGY AND INTERACTION MEASUREMENT

Fall term. Credit four hours. Hours to be arranged. Mr. Chapple.

Interactional (and emotional) patterns of behavior will be discussed in terms of the biological (and physiological) foundations, and criteria for measuring these patterns will be applied in studies of free-ranging individuals in actual field contexts or in laboratory situations approximating field conditions. The nature of the relationships between these patterns and cultural factors will be emphasized.

520. CONTEMPORARY BRITISH AND FRENCH ANTHROPOLOGY

Spring term. Credit four hours. T 3:35-5:35. Mr. B. Lambert.

A survey and critique of major current trends in British and French anthropology. Special attention is paid to the work of such representative figures as Levi-Strauss, Leach, Fortes, Firth, and Gluckman and the types of research they have fostered.

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521. ETHNOLINGUISTICS

Fall term. Credit four hours. F 3:35-5:35. Mr. Chafe.

A survey of problems and findings in the interrelations of language and culture.

524. RELIGIOUS SYSTEMS: BUDDHISM

Spring term. Credit four hours. F 3:35-5:35. Mr. Mendelson.

A comparative study of this world religion in the context of Asian civilizations with emphasis on Theravada Buddhism.

525. THE CONTENT OF CULTURE

Fall term. Credit four hours. T 3:35-5:35. Mr. Roberts.

Attention is given to the description and management of the informational resource known as culture with a view to developing a theory of culture content. Codes, models, and inventories are given specific attention.

531. MIDDLE AMERICA

Fall term. Credit four hours. Th 3:35-5:35. Mr. Cancian.

Topics in the social anthropology of Middle American Indians and peasants. In 1967-68 the focus will be on economic systems.

532. TRIBAL PEOPLES OF LOWLAND SOUTH AMERICA

Spring term. Credit four hours. M 3:35-5:35. Mr. T. Turner.

An analytical study of selected well-documented tribal societies from Tierra del Fuego to the Amazon basin and Andean Montana. Ecology, social structure, political organization, ritual, and mythology will be considered.

534-535. SOUTHEAST ASIA: READINGS IN SPECIAL PROBLEMS

Throughout the year. Credit and hours to be arranged. Prerequisite: consent of the instructors. Messrs. Mendelson and Siegel.

[537. AFRICA]

Fall term. Credit four hours. Mr. V. Turner. Not offered in 1967-68.

541. SEMINAR: INDIA AND SOUTH ASIA

Fall term. Credit four hours. M 3:35-5:35. Mr. Opler.

An analysis of selected social, economic, and ideological institutions and developments in India and South Asia, and of present tendencies in regard to them.

[542. CHINA]

Spring term. Credit four hours. Mr. Wolf. Not offered in 1967-68.

543. JAPANESE CULTURE AND SOCIETY

Fall term. Credit four hours. W 3:35-5:35. Mr. Smith.

A survey of the social structure of Japan and a discussion of trends in urban and rural life during the past century. Attention will also be devoted to the historical development and present social context of the graphic arts, literature, music, and the drama.

561. PROBLEMS IN ASIAN ARCHAEOLOGY

Fall term. Credit four hours. T 3:35-5:35. Miss Treistman.

An investigation of selected problems in Asian prehistory and early civilizations.

564. PROBLEMS IN EUROPEAN ARCHAEOLOGY

Spring term. Credit four hours. W 3:35-5:35. Mr. Lynch.

An investigation of selected problems in the interpretation of European prehistory, ranging from the significance of variation in Mousterian industries, to the archaeological identification of Iron Age cultural and linguistic groups.

[565. ARCHAEOLOGY: AGRICULTURE AND CIVILIZATION]

Fall term. Credit four hours. Mr. Lynch. Not offered in 1967-68.

[572. BIOCULTURAL EVOLUTION]

Spring term. Credit four hours. Th 3:35-5:35. Mr. Ascher. Not offered in 1967-68.

575. PHYSICAL ANTHROPOLOGY: HISTORY AND THEORY

Fall term. Credit four hours. Th 7:30-9:25 P.M. Mr. Kennedy.

The historical development of ideas about man's place in nature derived from philosophical and scientific sources. Discussion is based upon readings of original writings by Linnaeus, Blumenbach, Darwin, Boule, Keith, and contemporary anthropologists. Special emphasis is placed upon theories of human phylogeny, the methodology of physical anthropology, and current orientations of the discipline.

[577. PALAEOANTHROPOLOGY OF SOUTH ASIA]

Fall term. Credit four hours. Mr. Kennedy. Not offered in 1967-68.

601-602. FIELD RESEARCH

Throughout the year. Credit to be arranged. Staff.

Field research seminars may be conducted in the United States, Latin America, Africa, India, Southeast Asia, Taiwan, Japan, and other areas for a limited number of adequately prepared students.

CROSS-CULTURAL RESEARCH METHODS (Rural Sociology 516)

Spring term. Credit three hours. Prerequisite: Rural Sociology 515 or consent of the instructor. W F 1:25-3:00. Mr. Young.

ASIAN STUDIES

Faculty

China: Knight Biggerstaff (modern history), Nicholas C. Bodman (linguistics), Nai-ruenn Chen (economics), Chuen-tang Chow (literature), John W. Lewis (government: domestic politics), Ta-Chung Liu (economics), John McCoy (linguistics and literature), David Mazingo (government: international relations), Charles A. Peterson (medieval history), Harold Shadick (literature), Judith M. Treistman (archaeology), Arthur P. Wolf (anthropology), Martie W. Young (art history).

Japan: Robert J. Smith (anthropology).

South Asia: L. P. Adams (labor relations), D. E. Ashford (government: public administration), H. R. Capener (sociology), Arch T. Dotson (government: development planning), Gordon H. Fairbanks (linguistics), Harold Feldman (child development), James W. Gair (linguistics), Gerald Kelley (linguistics).

Kenneth A. R. Kennedy (anthropology), John W. Mellor (economics), Morris E. Opler (anthropology).

Southeast Asia: Benedict R. O'G. Anderson (government), John M. Echols (linguistics and literature), Frank H. Golay (economics), Robert B. Jones, Jr. (linguistics), George McT. Kahin (government), Stanley J. O'Connor (art history), Robert A. Polson (rural sociology), Robert M. Quinn (linguistics), Lauriston Sharp (anthropology), James T. Siegel (anthropology), John U. Wolff (linguistics), O. W. Wolters (history).

Visiting Professors 1967-68:

China: Maurice Freedman, Anthropology, London University.

Southeast Asia: Alexander B. Griswold, Director, Breezewood Foundation.

Field Representative: Harold Shadick, 102 Franklin Hall.

MAJOR SUBJECT: Chinese Literature

MINOR SUBJECTS: Asian Studies, Chinese Linguistics, Chinese Literature, South Asian Linguistics, Southeast Asian Linguistics. Major and minor work is also offered in various social science fields (see appropriate discipline listings in this Announcement). Work is also offered in Oriental art, in medieval or modern Chinese history, and in Southeast Asian history (see the sections "History of Art and Archaeology" and "History" in the *Announcement of the Graduate School: Humanities*).

The Major in Chinese Literature

At least two years of Chinese language study are required prior to admission.

Preference is given to applicants who have taken several undergraduate courses in English or European literature.

Candidates for the Ph.D. whose undergraduate education was in a Chinese university are normally expected to have taken a degree in English or in a European literature before admission.

It is recommended that applicants submit Graduate Record Examination Aptitude Test scores.

Language requirements for the Master's degree: proficiency in French, German, Japanese, or Russian. For the Ph.D. degree: proficiency in two of these languages.

The comprehensive examination for admission to Ph.D. candidacy will test: (1) familiarity with representative works in classical and vernacular Chinese and with critical studies in Chinese; (2) broad knowledge of the available translations of Chinese literature and critical studies in other languages; (3) specialized knowledge of at least two subfields such as the Confucian or Taoist classics, poetry, drama, fiction, classical prose, or twentieth-century writings.

The requirements for the M.A. degree or for a minor in Chinese literature are roughly equivalent to (1) or (2) above.

Courses

CHINESE 312. INTERMEDIATE CLASSICAL CHINESE

Spring term. Credit three hours. Prerequisite: Chinese 213 or 301. M W F 11:15. Mr. Shadick.

Study of texts in a variety of styles, ancient and modern.

CHINESE 313. CHINESE HISTORICAL AND PHILOSOPHICAL TEXTS

Fall term. Credit four hours. Prerequisite: Chinese 302 or 312 or consent of the instructor. T Th 11:15 and one hour to be arranged. Mr. Shadick. Selections from the standard histories, the classical philosophers, and early modern reformers.

CHINESE 402. HISTORY OF THE CHINESE LANGUAGE

Either term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Bodman.

CHINESE 403. LINGUISTIC STRUCTURE OF CHINESE

Either term: Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Bodman.

CHINESE 411-412. ADVANCED READINGS IN MODERN CHINESE

Throughout the year. Credit four hours a term. Prerequisite: Chinese 302. Hours to be arranged. Mr. McCoy.

CHINESE 414. CLASSICAL CHINESE PROSE

Spring term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Shadick.

CHINESE 416. CLASSICAL CHINESE POETRY AND DRAMA

Fall term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Instructor to be appointed.

CHINESE 420. READINGS IN THE TRADITIONAL CHINESE NOVEL

Either spring or fall term, according to demand. Credit two or four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. McCoy.

CHINESE 521-522. ADVANCED READINGS IN CLASSICAL CHINESE

Throughout the year. Credit two or four hours a term. Prerequisite: consent of the instructor. Hours to be arranged. Instructor to be appointed.

CHINESE 571-572. SEMINAR IN CHINESE LITERATURE

Fall term. Credit three hours. M W F 10. Mr. Shadick.

COMPARATIVE LITERATURE 371. CHINESE HISTORICAL AND PHILOSOPHICAL LITERATURE IN TRANSLATION

Fall term. Credit three hours. M W F 10:10. Mr. Shadick.

Philosophical and historical literature, including Confucian, Taoist, and Buddhist writings.

COMPARATIVE LITERATURE 372. CHINESE IMAGINATIVE LITERATURE IN TRANSLATION

Fall term. Credit three hours. M W F 10:10. Mr. Shadick.

Imaginative literature, including poetry, classical prose, fiction, drama, and the new writing of the twentieth century.

The Minor in Asian Studies

The Ph.D. candidate specializing in Asia (or with a serious interest in the area) may select a minor in the Field of Asian Studies consisting of either: (a) concentrated interdisciplinary study of one area of Asia, or (b) disciplinary

or topical concentration which cuts across area boundaries. Details of the minor are to be worked out in consultation with the member of the candidate's Special Committee representing Asian Studies. Because specialization in Asia usually involves the study of an Asian language, it is essential that the candidate discuss the problem of language work with the entire membership of his Committee, particularly with the member representing his major Field.

Courses

ASIAN STUDIES 501-502. SOUTHEAST ASIA

Throughout the year. F 4-6. Credit to be arranged. Staff.

A graduate-level survey of the cultures and history of Southeast Asia covering the pre-European, colonial, and postcolonial periods, but with particular emphasis on postwar developments and contemporary problems; will occasionally focus on a problem common to the area as a whole, but usually deals with a different country of Southeast Asia each term.

ASIAN STUDIES 591-592. SEMINAR: FIELD RESEARCH

Throughout the year. Staff.

Field research seminars for selected advanced studies are conducted in South Asia, Southeast Asia, Hong Kong, Taiwan, or Japan by staff members who are themselves working in these areas.

ASIAN STUDIES 676. SOUTHEAST ASIAN RESEARCH TRAINING SEMINAR

Spring term. Hours to be arranged. Credit to be arranged.

Open only to advanced graduate students preparing for field work in Southeast Asia.

All other courses relevant to the minor in Asian Studies are listed under various discipline fields in this Announcement and in the *Announcement of the Graduate School: Humanities*. They are listed as a group under Asian Studies in the *Announcement of the College of Arts and Sciences*.

There are at Cornell three programs concerned with teaching and research on Asia — the China Program, South Asia Program, and Southeast Asia Program. (Selection of a minor in Asian Studies does not in all cases qualify the candidate for membership in one of these programs.) Requirements for membership in these programs will be found under their individual listings.

Several fellowships and research assistantships are available, for which application should be made directly to the Director of the China Program, the Director of the Southeast Asia Program, or the Director of the South Asia Program. These are described more fully on pages 29, 35, and 33 of this Announcement.

The work of the Department of Asian Studies is recognized and supported by the United States Office of Education. Under the National Defense Education Act, Cornell has three Language and Area Centers: East Asia, South Asia, and Southeast Asia. Languages currently offered are Burmese, Cebuano, Chinese (Mandarin, Cantonese, and Hokkien), Dutch, Hindi, Indonesian, Japanese, Javanese, Malay, Pali, Sanskrit, Sinhalese, Thai, Urdu, and Vietnamese. Graduate students in Asian Studies are eligible for the National Defense Foreign Language Fellowships offered by the U.S. Office of Education. Appli-

cation forms should be requested directly from the Graduate School and returned to it for forwarding to the U.S. Office of Education if approved.

Graduate students in Asian Studies are also eligible for the Foreign Area Training Fellowships administered by the Social Science Research Council for study in the United States and for research overseas. Qualified graduate students who are citizens of the United States may apply for Fulbright teaching and research awards for Taiwan, India, Japan, Malaysia, Pakistan, Philippines, and Thailand.

For additional details, consult the Department of Asian Studies, 100 Franklin Hall.

BUSINESS AND PUBLIC ADMINISTRATION

Faculty: Clayton P. Alderfer, Douglas E. Ashford, Roger M. Battistella, Fredrick T. Bent, Harold Bierman, Earl Brooks, William D. Carmichael, Melvin G. de Chazeau, Arch T. Dotson, Allan R. Drebin, Thomas R. Dyckman, Edward S. Flash, Frank F. Gilmore, Warren H. Hausman, A. Miller Hillhouse, G. David Hughes, John G. B. Hutchins, Thomas M. Lodahl, Alan K. McAdams, Arthur E. Nilsson, John M. Rathmell, Seymour Smidt, William H. Starbuck, David A. Thomas, Paul P. Van Riper, Richard R. West, Rodney F. White.

Visiting Professors 1967-68:

Wesley G. Cook, Monash University, Australia.

Peter Self, London School of Economics.

Field Representative: John G. B. Hutchins, 518 Malott Hall.

MAJOR AND MINOR SUBJECTS

Major or minor subjects:

Business Administration

Managerial Economics

Organizational Theory and Behavior

Public Administration

Minor subjects only:

Development and Public Administration

Finance and Accounting

Hospital Administration

Marketing

Production

Quantitative Methods for Administration

Major Subjects

BUSINESS ADMINISTRATION requires the candidate to demonstrate his ability to analyze the relationships of business firms to their economic, political, and social environment and to apply managerial decision-making concepts to the integrated operations of such firms, especially in the formulation of the overall policies of the enterprise. The candidate is permitted to focus his attention primarily within one of the functional areas, such as marketing, finance, production, personnel, or control. This selection of an area of study determines the area in which the thesis is written and influences the selection of the faculty member under whom the work is conducted. However, the thesis cannot ignore, and the major subject must comprehend, the viewpoint of top management toward the area of special study and its impact on the other functional areas.

MANAGERIAL ECONOMICS concentrates on economic analysis for decision making. The candidate may study the problems of the total economy, of industries, or of the firm and may do so within the context of a selected special study area, such as international economic relations, economic development, business-government relations, money and banking, investment project analysis, or transportation. He is expected to develop a thorough grasp of relevant economic theory and institutions and a basic understanding of both qualitative and quantitative methods of analysis.

ORGANIZATIONAL THEORY AND BEHAVIOR focuses on social- and behavioral-science approaches to the study of human activity in organizational settings. The major concern is with regularities, differences, and relationships in human behavior directed toward purposive ends. Systematic observation, theoretical analysis, and empirical investigation are stressed. A fundamental grounding in at least one of the basic social science disciplines, such as psychology or sociology, is required. Students without grounding in the literature and practices of general administration in an institutional setting must take one minor in such an area.

PUBLIC ADMINISTRATION involves an interdisciplinary approach to the study of governmental policies, policy formulation, power relationships, administrative behavior, basic management functions such as personnel and finance, and the broad environment of public affairs. The student is expected to gain competence in bureaucratic and organizational theory and in the methods of the social sciences.

Minor Subjects

DEVELOPMENT AND PUBLIC ADMINISTRATION focuses on the political, economic, and social problems of institution-building in developing countries and on their significance for American business and public administrators.

FINANCE AND ACCOUNTING includes the functions of financial institutions and organizations and capital markets and the provision of accounting data required for the management and appraisal of business firms and investment institutions.

HOSPITAL ADMINISTRATION involves study of the economic and administrative problems of health programs, health agencies, and hospitals.

MARKETING emphasizes the application of analytical tools derived from economics, psychology, sociology, and operations research in the development of operational and policy aspects of the marketing function.

PRODUCTION includes a critical study of the effectiveness and limitations of various quantitative methods of analysis, including computer simulation, in the solution of major economic decision problems of production and operations management.

QUANTITATIVE ANALYSIS FOR MANAGEMENT stresses modern developments in the uses of mathematical and statistical tools and computer technology for the solution of managerial problems, including decision making under uncertainty.

Requirements

In addition to the general requirements of the Graduate School, the following requirements apply specifically to the Field of Business and Public Administration:

COURSE WORK. A student admitted to the program must select a major subject from the four listed above. He must also select two minor subjects. In most cases he is encouraged to select one minor from another Field, preferably in a subject which will supply strong disciplinary support for his major interest. Those from which minors are commonly selected are the Fields of City and Regional Planning, Economics, Government, Industrial and Labor Relations, Operations Research, Psychology, and Sociology. Attention is called to the wide range of choice available at Cornell. It is necessary, however, for the student to have or to acquire adequate preparation for graduate work in such Fields. The number and content of courses to be taken are determined by the student's Special Committee.

Candidates for advanced degrees with majors in other Fields may elect minors in this Field provided they have sufficient preparation to do the graduate work involved. Twelve to fifteen hours of work are normally required as a minimum for a minor, depending on the degree sought and the extent of the candidate's preparation.

LANGUAGE REQUIREMENT. The Ph.D. candidate is also required to demonstrate reading proficiency in one foreign language, chosen from among French, German, Italian, Russian, Spanish, and Swedish. With the approval of a student's Special Committee, another language having either a substantial scholarly literature or significant utility in the student's research plans may be substituted. Any Special Committee may require more than one language or greater competence in one language.

THESIS. A thesis is required and is prepared under the supervision of the Special Committee.

EXAMINATIONS. Shortly after the student enrolls, a qualifying examination, usually both written and oral, is given in order to determine whether he is properly prepared to continue in the subject areas he has selected. The qualifying examination also serves as a basis for the Special Committee to assist the student in working out his program of study.

A comprehensive Admission to Candidacy Examination is given on the major and minor subject areas after the candidate has had adequate preparation therein, ordinarily after four terms of residence have been completed. The Admission to Candidacy Examination is always given in two parts, written and oral. An oral Final Examination is scheduled after the thesis manuscript has been approved in substance by the Special Committee.

Admissions

Admission to the Ph.D. program is dependent on suitable preparation for the subjects to be selected. This may consist of strong undergraduate work in such relevant fields as economics, government, sociology, psychology, mathematics, or engineering or of a satisfactory record in a professional program leading to the M.B.A. or M.P.A. degree. A student having had neither work in a relevant discipline nor a professional Master's degree will be expected to complete substantial course work from the Master's degree program during

his doctoral work. A student who has completed a narrowly focused undergraduate program in business administration may be requested to obtain additional preparation in the underlying disciplines.

Applicants, both foreign and domestic, are required to submit aptitude test scores for either the Admission Test for Graduate Study in Business or the Graduate Record Examination.

The M.A. and M.S. degrees are not awarded in this Field. A student interested in a Master's degree should examine the *Announcement of the Graduate School of Business and Public Administration*, which describes the program for the professional degrees of Master of Business Administration and Master of Public Administration.

Courses

BUSINESS ADMINISTRATION

- 200. BUSINESS POLICY. Fall term. Credit four hours. Mr. Gilmore.
- 201. INTERNATIONAL BUSINESS POLICY. Spring term. Credit three hours. Mr. Gilmore.
- 308. LAW OF BUSINESS ASSOCIATIONS. Spring term. Credit four hours. Mr. Bugliari.
- 309. ADVANCED BUSINESS LAW. Fall term. Credit four hours. Mr. Bugliari.
- 325. SEMINAR IN MANAGEMENT OF AGRICULTURAL INDUSTRIES. Spring term. Credit three hours.

MANAGERIAL ECONOMICS

- 124. ECONOMIC ANALYSIS FOR MANAGEMENT I. Fall term. Credit three hours. Messrs. Hausman and Hass.
- 125. ECONOMIC ANALYSIS FOR MANAGEMENT II. Spring term. Credit three hours. Messrs. Smidt and McAdams.
- 202. BUSINESS ENTERPRISE AND PUBLIC POLICY. Spring term. Credit three hours. Mr. Hutchins.
- 375. ECONOMIC AND BUSINESS HISTORY. Fall term. Credit three hours. Mr. Hutchins.
- 376. BUSINESS POLICY AND ECONOMIC INSTABILITY. Fall term. Credit three hours. Mr. de Chazeau.
- 377. COMPETITIVE BEHAVIOR AND PUBLIC POLICY. Spring term. Credit three hours. Mr. de Chazeau.
- 379. ECONOMIC EVALUATION OF CAPITAL INVESTMENT PROJECTS. Spring term. Credit three hours. Mr. Smidt.
- 575. TRANSPORTATION: RATES AND REGULATIONS. Fall term. Credit three hours. Mr. Hutchins.
- 576. TRANSPORTATION: STRUCTURES, OPERATIONS, AND POLICIES. Spring term. Credit three hours. Mr. Hutchins.

ORGANIZATIONAL THEORY AND BEHAVIOR

120-121. ORGANIZATION, HUMAN RELATIONS, AND PERSONNEL. Fall term. Credit four hours. Messrs. Lodahl and Alderfer.

352. PUBLIC RELATIONS AND COMMUNICATIONS CASES AND PROBLEMS (Industrial and Labor Relations 628). Spring term. Credit three hours. Mr. Hodges.

500. HUMAN RELATIONS IN ADMINISTRATION. Spring term. Credit three hours. Mr. White.

501. PUBLIC PERSONNEL MANAGEMENT. Spring term. Credit three hours. Mr. Van Riper.

502. ORGANIZATIONAL BEHAVIOR AND ADMINISTRATION. Fall term. Credit three hours. Mr. Brooks.

503. BUSINESS AND INDUSTRIAL PERSONNEL. Spring term. Credit three hours. Mr. Dunnington.

505. PROBLEM SOLVING IN ADMINISTRATION. Spring term. Credit three hours.

902. SEMINAR IN ORGANIZATIONAL THEORY AND BEHAVIOR. Spring term. Credit three hours.

903. UNIVERSITY ADMINISTRATION. Spring term. Credit three hours. Mr. Starbuck.

907. SPECIAL TOPICS IN ORGANIZATIONAL THEORY AND BEHAVIOR. Spring term. Credit three hours. Mr. Alderfer.

PUBLIC ADMINISTRATION

130. MANAGEMENT OF PUBLIC AGENCIES I. Fall term. Credit two hours. Mr. Van Riper.

131. MANAGEMENT OF PUBLIC AGENCIES II. Spring term. Credit four hours. Messrs. Hillhouse and Drebin.

428. GOVERNMENTAL FISCAL MANAGEMENT. Fall term. Credit three hours. Mr. Hillhouse.

550. POLITICS AND POLITICAL POWER. Spring term. Credit three hours. Mr. Van Riper.

552. COMPARATIVE PUBLIC ADMINISTRATION. Fall term. Credit three hours.

553. THEORY AND PRACTICE OF MUNICIPAL FINANCE. Fall term. Credit three hours. Mr. Hillhouse.

554. SEMINAR IN URBAN GOVERNMENT AND ADMINISTRATION. Fall term. Credit three hours. Mr. Flash.

555. ISSUES OF PUBLIC POLICY AND ADMINISTRATION. Spring term. Credit three hours. Mr. Flash.

66 BUSINESS AND PUBLIC ADMINISTRATION

556. SEMINAR IN PUBLIC ADMINISTRATION. Fall term. Credit three hours. Mr. Van Riper.

557. HUMAN RESOURCE DEVELOPMENT PROBLEMS IN THE METROPOLIS (Planning 780). Fall term. Credit two hours.

558. CASE STUDIES IN HUMAN RESOURCE DEVELOPMENT PLANNING (Planning 781). Spring term. Credit two hours. Mr. Seessel.

560. SEMINAR IN URBANIZATION AND REGIONAL DEVELOPMENT. Fall term. Credit three hours. Mr. Self.

DEVELOPMENT AND PUBLIC ADMINISTRATION

551. AMERICAN OPERATIONS ABROAD. Fall term. Credit three hours. Mr. Bent.

561. SEMINAR IN CONTEMPORARY NATIONALISM (Government 545). Spring term. Credit four hours. Mr. Ashford.

661. SEMINAR IN THE DEVELOPMENT PROCESS (Government 537). Fall term. Credit four hours. Mr. Ashford.

662. SEMINAR IN ADMINISTRATION AND DEVELOPMENT. Spring term. Credit four hours. Mr. Bent.

FINANCE AND ACCOUNTING

122. MANAGERIAL ACCOUNTING. Fall term. Credit four hours. Messrs. D. Thomas and Drebin.

128. FINANCE. Spring term. Credit three hours. Messrs. McAdams and Hass.

300. INTERMEDIATE ACCOUNTING. Spring term. Credit three hours. Mr. Cook.

301. ADVANCED ACCOUNTING. Spring term. Credit three hours. Mr. Cook.

302. COST ACCOUNTING. Spring term. Credit three hours. Mr. Dyckman.

303. SEMINAR IN MANAGERIAL ACCOUNTING. Fall term. Credit three hours. Mr. Bierman.

304. FINANCIAL ACCOUNTING. Fall term. Credit three hours. Mr. Drebin.

305. FEDERAL TAXATION AND DECISION MAKING. Fall term. Credit three hours. Mr. Bierman.

306. GOVERNMENTAL ACCOUNTING. Spring term. Credit three hours. Mr. Hillhouse.

310. MANAGERIAL ACCOUNTING IN HOSPITALS. Spring term. Credit two hours. Messrs. Hillhouse and Drebin.

381. MONETARY MANAGEMENT AND STABILIZATION. Fall term. Credit three hours.

424. ANALYSIS OF AMERICAN INDUSTRIES. Fall term. Credit three hours. Mr. de Chazeau.

426. FINANCIAL MANAGEMENT. Fall term. Credit three hours. Mr. Nilsson.

427. INVESTMENT MANAGEMENT. Spring term. Credit three hours. Mr. Nilsson.

429. FINANCIAL INTERMEDIARIES AND MONEY AND CAPITAL MARKETS. Spring term. Credit three hours.

432. CAPITAL FINANCING SEMINAR. Fall term. Credit three hours. Mr. Nilsson.

433. SEMINAR IN ORGANIZED MARKETS. Fall term. Credit three hours. Mr. Smidt.

HOSPITAL ADMINISTRATION

140. INTRODUCTION TO HOSPITAL AND MEDICAL CARE ADMINISTRATION. Fall term. Credit two hours. Mr. Battistella.

141. INTRODUCTION TO CLINICAL MEDICINE. Spring term. Credit three hours. Dr. Samson.

142. SOCIOLOGY OF COMMUNITY HEALTH CARE. Spring term. Credit three hours. Mr. Battistella.

450. DEVELOPMENTS IN HOSPITAL AND MEDICAL CARE ADMINISTRATION. Fall term. Credit three hours. Mr. Brown.

451. MENTAL HEALTH AND ADMINISTRATION. Spring term. Credit three hours. Mr. Alderfer.

453. LEGAL ASPECTS OF HOSPITAL ADMINISTRATION. Fall term. Credit two hours. Mr. Bugliari.

454. POLICY AND PLANNING IN HOSPITALS AND HEALTH AGENCIES. Spring term. Credit three hours.

455. SEMINAR IN HEALTH RESEARCH. Fall term. Credit three hours. Mr. White.

457. HEALTH ECONOMICS. Fall term. Credit three hours. Mr. Battistella.

458. HEALTH AND WELFARE POLICY: FOUNDATIONS AND STRATEGIES. Fall term. Credit four hours. Mr. Battistella.

MARKETING

126. MARKETING. Fall term. Credit two hours. Messrs. Hughes and Shocker.

475. SALES MANAGEMENT. Fall term. Credit three hours. Mr. Rathmell.

476. MARKETING RESEARCH. Fall term. Credit three hours. Mr. Hughes.

68 BUSINESS AND PUBLIC ADMINISTRATION

478. ADVERTISING MANAGEMENT. Spring term. Credit three hours. Mr. Hughes.

479. INTERNATIONAL MARKETING. Spring term. Credit three hours. Mr. Rathmell.

480. MARKETING STRATEGY. Spring term. Credit three hours. Mr. Rathmell.

481. SEMINAR IN MARKETING THEORY. Fall term. Credit three hours. Mr. Rathmell.

482. SEMINAR IN MARKETING AND THE MANAGEMENT SCIENCES. Spring term. Credit three hours. Mr. Shocker.

PRODUCTION

127. OPERATIONS MANAGEMENT. Spring term. Credit two hours. Messrs. Hausman and L. Thomas.

525. PROBLEMS AND TECHNIQUES IN PRODUCTION MANAGEMENT. Fall term. Credit three hours. Mr. L. Thomas.

526. CASE STUDIES IN PRODUCTION AND OPERATIONS MANAGEMENT. Spring term. Credit three hours. Mr. Hausman.

QUANTITATIVE ANALYSIS

123. QUANTITATIVE METHODS FOR MANAGEMENT I. Fall term. Credit three hours. Messrs. Smidt, McAdams, and Dyckman.

402. QUANTITATIVE APPROACHES TO MANAGEMENT DECISIONS. Fall term. Credit three hours.

456. QUANTITATIVE METHODS FOR MANAGEMENT II. Spring term. Credit three hours. Mr. Dyckman.

600. INTRODUCTION TO PROBABILITY THEORY (Industrial Engineering 9460). Fall term. Credit four hours.

601. INTRODUCTION TO STATISTICAL THEORY (Industrial Engineering 9470). Spring term. Credit four hours.

602. OPERATIONS RESEARCH I (Industrial Engineering 9522). Fall term. Credit three hours.

604. OPERATIONS RESEARCH II (Industrial Engineering 9523). Spring term. Credit three hours.

605. DATA PROCESSING SYSTEMS (Industrial Engineering 9582). Fall term. Credit three hours.

901. DATA PROCESSING SYSTEMS (Computer Science 431). Spring term. Credit three hours.

MISCELLANEOUS

129. INTRODUCTION TO COMPUTER PROGRAMMING. Fall term (first five weeks). Credit one hour. Mr. Smidt.

900. MANAGEMENT SURVEYS AND ANALYSIS. Spring term. Credit three hours. Mr. Van Riper.

906. INDIVIDUAL DECISION MAKING. Fall term. Credit three hours. Mr. Starbuck.

RESEARCH

905. SEMINAR IN RESEARCH METHODS. Spring term. Credit three hours. Mr. Starbuck.

CHILD DEVELOPMENT AND
FAMILY RELATIONSHIPS

Faculty: Helen T. McMullen Bayer, W. Lambert Brittain, Urie Bronfenbrenner, Francesca Cancian, John C. Condry, Robert H. Dalton, Edward C. Devereux, Jr., John Doris, Harold Feldman, Herbert Ginsburg, John S. Harding, Laurel Hodgden, Harry Levin, Margaret Parkman, Marian Potts, Henry N. Ricciuti, Aletha Stein, George J. Suci.

Field Representative: John S. Harding, Martha Van Rensselaer Hall.

MAJOR SUBJECT

Child Development and Family
Relationships

MINOR SUBJECTS

Child Development
Family Relationships

Applicants resident in the United States during the year before entering Graduate School are required to submit their scores on the Graduate Record Examination Aptitude Test when applying for admission.

There is no language requirement for the Master's degree. The language requirement for the Ph.D. consists of reading proficiency in one foreign language, either French, German, Russian, or Spanish. Another language may be substituted for one of the preceding only if in the unanimous opinion of the student's Special Committee, it is an appropriate choice for that student's particular course of studies. A student whose native language is not English will be exempt from the language requirement.

The graduate program is concerned primarily with the preparation of students for careers in research and college teaching dealing with the scientific study of children and families. All students are expected to acquire a basic background in the behavioral sciences, and to master a broad base of knowledge of human development and of the family as a social system. Individual programs can be planned so as to provide for major concentration in the study of child development, the family, or child and family psychopathology.

A substantial number of research projects conducted by faculty members in the Field provide varied research experiences for graduate students either as research assistants or through participation in research practice which is an integral part of the academic program. Some of the areas of special interest represented in the department and among the associated faculty members are as follows:

70 CHILD DEVELOPMENT, FAMILY RELATIONSHIPS

Cognitive development: Professors Ginsburg, Levin, Ricciuti, Suci.

Creativity: Professor Brittain.

Family Interaction: Professors Bayer, Cancian, Devereux, Feldman, and Parkman.

Infancy: Professors Doris and Ricciuti.

Language development: Professors Levin and Suci.

Nursery school education: Professors Hodgden and Potts.

Personality development: Professors Bronfenbrenner, Dalton, Hodgden, and Stein.

Child and family psychopathology: Professors Devereux, Doris, Dalton, Parkman, Ricciuti, and Stein.

Social behavior: Professors Bronfenbrenner, Condry, Harding, and Stein.

Masters' degree programs ordinarily require one and one-half to two years for completion; Ph.D. programs about four years. Students with relatively little preparation in the behavioral sciences should plan on additional time to complete degree requirements. Admission to graduate study is based primarily on evidence of the student's competence to do advanced work in a research-and-theory-oriented program, and on broad preparation as a basis for specialization. Both the Master's and Ph.D. degrees require the completion of a research thesis. All degree candidates must develop some competence in statistical methods, usually by taking one or more appropriate courses.

Approximately forty teaching fellowships and research assistantships are ordinarily available, along with nine National Institute of Mental Health Traineeships and one National Science Foundation Traineeship.

For further details concerning graduate work in the Field, write to the Department of Child Development and Family Relationships for the brochure *Graduate Training in the Scientific Study of Children and Families*. Since the subject matter in Child Development and Family Relationships draws on several major disciplines, students are encouraged to supplement their work in the Fields with studies in related Fields. For courses in these related disciplines, see the appropriate Field listings in this Announcement.

Courses

[323. COGNITIVE PROCESSES]

Fall term. Credit three hours. Prerequisite: C.D. and F.R. 115 or equivalent. Mr. Suci. Not offered in 1967-68.

324. PIAGET'S APPROACH TO COGNITIVE DEVELOPMENT

Fall term. Credit three hours. Prerequisite: C.D. & F.R. 115 or equivalent. M W F 12:20. MVR 124. Mr. Ginsburg.

An introduction to Piaget's theories and research concerning cognitive development from infancy to adolescence.

342. THE DEVELOPMENT OF CREATIVE THINKING

Fall term. Credit three hours. Prerequisite: C.D. & F.R. 115 or equivalent. Not to be taken concurrently with C.D. & F.R. 141. T Th 8. MVR NB-19. Mr. Brittain.

A study of various theories of creativity and a review of the research on creative behavior.

352. ETHNOGRAPHY OF AMERICAN FAMILIES

Spring term. Credit three hours. Limited to 15 students. T Th 2:30-4:25. Blocks of time for field work will be arranged. Mrs. Cancian.

Students will do research on families in two subcultures of Ithaca, by observation, interviewing, and other methods.

358. THEORIES OF FAMILY ORGANIZATION, STRUCTURE, AND FUNCTION

Spring term. Credit three hours. W 2-4:25. MVR 124. Mr. Feldman.

Theories directly related to the family will be examined, as well as a selection of theories from the fields of sociology, psychology, and social psychology which have implications for the understanding of the family.

363. THE STUDY OF FAMILY INTERACTION

Fall term. Credit three hours. Prerequisite: C.D. & F.R. 162 or Sociology 343 or equivalent. T Th 11:15-12:20. MVR 339. Mrs. Parkman.

Study of the theoretical and research literature on the modern American family with the aim of understanding the interpersonal relationships of family members.

364. PSYCHOPATHOLOGY

Fall term. Credit three hours. Prerequisites: C.D. & F.R. 360 or equivalent, and permission of the instructor. Limited to 25 students. T 10:10-12:05. Mr. Dalton.

Primary emphasis will be upon theory and empirical findings with respect to the origin and behavioral manifestations of the neuroses, schizophrenia, and certain personality disorders.

372. THE FAMILY IN POVERTY

Fall term. Credit three hours. W 2-4:25. Will be taught by members of the Interdisciplinary Research Group on Poverty.

Relevant research and theories about families who are economically deprived will be discussed. In addition, students will propose and carry out a pilot field study on some aspect of the course.

374. BEHAVIOR AND DEVELOPMENT IN INFANCY

Fall term. Credit three hours. Prerequisite: C.D. & F.R. 115 or equivalent. T Th 9:05-11. MVR Amphitheater. Mr. Ricciuti.

An examination of characteristic developmental changes in infant behavior from birth to approximately two years.

[414. SEMINAR IN LANGUAGE DEVELOPMENT]

Fall term. Credit three hours. Mr. Levin. Not offered in 1967-68.

452. FAMILY STRUCTURE AND ECONOMIC CONTROL

Fall term. Credit three hours. M F 1:25-3:20. Mrs. Cancian.

The seminar will examine cross-cultural variation in control of family economic resources, and investigate the relationship between economic control and other aspects of family structure.

500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

Fall and spring terms. Credit and hours to be arranged. For graduate students who are recommended by their chairmen as being capable of independent, advanced work and are approved by the head of the department and the instructor in charge of the course.

72 CHILD DEVELOPMENT, FAMILY RELATIONSHIPS

501-502. SURVEY OF CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS

Fall and spring terms. Credit three hours each semester. Fall term, W F 9:40-11:00. Spring term, T Th 1:00-2:20. MVR 121. Limited to 25 students. Department faculty.

This course is a proseminar designed to acquaint entering graduate students with the principal research methods and findings in the major areas of child development and family relationships.

[504-505. RESEARCH METHODS IN CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS]

Fall and spring terms. Credit three hours each semester. Mr. Condry and Mr. Harding. Not offered in 1967-68.

514. CLINICAL DEVIATIONS IN INTELLECTUAL AND SENSORY-MOTOR DEVELOPMENT

Spring term. Credit three hours. Th 1:25-4:25. Mr. Doris.

Designed to acquaint students with the clinical and research literature on mental retardation, cerebral palsy, and sensory defects.

517. SEMINAR IN NURSERY SCHOOL PROCEDURES

Fall term. Credit three hours. Hours to be arranged. Miss Goertz.

Exploration of research related to the nursery school; study of methods of working with parents, supervision of students, and administrative procedures in the nursery school.

522. SEMINAR ON PROBLEMS RAISED BY PIAGET

Spring term. Credit three hours. Prerequisite: good performance in C.D. & F.R. 324 and permission of the instructor. T 2:30-5. Mr. Ginsburg.

The topic for 1968 will be quantitative thinking in the child: more specifically the child's conception of number, statistical thinking, and formal thought in adolescence.

524. SEMINAR IN FREUD

Spring term. Credit three hours. T 2:30-5. MVR G106. Mr. Harding.

There will be a systematic examination of the development of Freud's concepts and theories from 1885 to 1915, plus selective consideration of various topics in Freud's later thought and the thought of psychologists influenced by him.

560A. SEMINAR IN PSYCHODYNAMICS: NORMAL AND PSYCHOPATHOLOGICAL

Fall term. Credit three hours. Th 10:10-12:35. MVR 124. Mr. Dalton.

Primary emphasis will be upon theory and empirical findings with respect to normal personality development and functioning.

560B. SEMINAR IN PSYCHODYNAMICS: NORMAL AND PSYCHOPATHOLOGICAL

Spring term. Credit three hours. Th 10:10-12:35. MVR 121. Mrs. Stein.

Primary emphasis will be upon theory and empirical findings with respect to the origin, functioning, and treatment of psychopathological personalities.

563. SEMINAR ON INTERACTION IN EMOTIONALLY DISTURBED FAMILIES

Spring term. Credit three hours. Hours to be arranged. Mrs. Parkman.

Historical review of literature on characteristics of parents of emotionally disturbed children, their socialization techniques, interpersonal relationships, and communication styles.

568. SOCIOLOGICAL FACTORS IN PSYCHOPATHOLOGY

Fall term. Credit three hours. Admission by permission of instructor. T 2-4:30. Mr. Devereux.

This seminar will explore the research literature on sociological factors in the family, the community, the institution, and the broader society relevant for understanding the causes and treatments of deviant behavior and pathological personality organization.

574. SEMINAR ON INFANT BEHAVIOR AND DEVELOPMENT

Fall term. Credit three hours. F 1:25-4. MVR 121. Mr. Ricciuti.

The seminar will deal with selected topics of current importance as research issues in the field of infant behavior and development.

599. MASTER'S THESIS AND RESEARCH

Fall and spring terms. Credit to be arranged. Registration with permission of the instructor. Department faculty.

606. RESEARCH PRACTICUM: FAMILY STRUCTURE AND PERSONALITY DEVELOPMENT

Spring term. Credit three hours. W 2-4:25. Messrs. Bronfenbrenner, Devereux, and Rodgers.

A practicum utilizing the resources of an on-going program of research. Members of the seminar participate in design, critical analysis, and execution of research studies.

611. EVALUATION PRACTICUM: STUDY OF THE INDIVIDUAL PERSONALITY, DEVIANT AND NORMAL

Spring term. Credit three hours. Admission by permission of the instructors. Prerequisites: C.D. & F.R. 613, 560A and B, or equivalents. T 2:30-4:25 and additional hours to be arranged. MVR 124. Messrs. Doris and Ricciuti, and Mrs. Stein.

Provides experience in the description and evaluation of the psychological function of individual children, both deviant and normal, in the context of relevant social and familial factors.

613. INDIVIDUAL INTELLIGENCE TEST PROCEDURES

Fall term. Credit four hours. Admission by permission of the instructor. W 1:25-4:25. Additional hours for testing and supervision to be arranged. MVR 301. Mr. Doris.

The primary purpose is to prepare a student for participation in C.D. & F.R. 611, and it is a prerequisite for that practicum.

[615. SEMINAR IN THE DEVELOPMENT OF HUMAN BEHAVIOR]

Fall term. Credit three hours. Mr. Bronfenbrenner. Not offered in 1967-68.

[620. RESEARCH PRACTICUM: EXPERIMENTAL STUDIES OF CHILD BEHAVIOR]

Spring term. Credit three hours. Permission of the instructor required. Mr. Levin. Not offered in 1967-68.

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621. SEMINAR IN THE EXPERIMENTAL STUDY OF SOCIAL BEHAVIOR

Spring term. Credit four hours. M W F 10:10, and an additional meeting to be arranged. Mr. Condry.

An introduction to theory and research in social behavior at the graduate level. The seminar utilizes the readings and discussions of C.D. & F.R. 321 as a basis for further reading and the design of research.

623. ADVANCED SEMINAR IN COGNITIVE PROCESSES

Spring term. Credit three hours. Permission of instructor required. T 10:10-12:05. MVR 124. Mr. Suci.

The student will explore in depth a problem of his own choosing.

660. PERSONALITY DEVELOPMENT IN CHILDHOOD

Fall term. Credit three hours. M W F 11:15, and an additional meeting to be arranged. Mrs. Stein.

This course is the graduate section of C.D. & F.R. 360. In addition to covering the lectures and readings for that course, students will meet separately for weekly discussions and do additional reading.

[662. SEMINAR IN THE FAMILY AND SOCIETY]

Spring term. Credit four hours. Mr. Devereux. Not offered in 1967-68.

663. SEMINAR ON EXPERIMENTAL STUDY OF THE FAMILY

Spring term. Credit three hours. Admission by permission of the instructor. Hours to be arranged. Mrs. Parkman.

This course focuses on observational studies of interpersonal relations in the family.

699. DOCTOR'S THESIS AND RESEARCH

Fall and spring terms. Credit to be arranged. Registration with permission of instructor. Department faculty.

CITY AND REGIONAL PLANNING

Faculty: John Allderidge, Pierre Clavel, Stanislaw Czamanski, Allan G. Feldt, Jack C. Fisher, Michael Hugo-Brunt, Barclay G. Jones, Burnham Kelly, Thomas W. Mackesey, Kermit C. Parsons, John W. Reys, Stuart W. Stein, Oliver C. Winston.

Visiting Professors: Henry Cohen, Roy Gerard, Gideon Golany, John Hamburg, Thomas Seessel, Russell Wright, Jr.

Field Representative: Barclay G. Jones, West Sibley Hall.

Master of Regional Planning

Graduate study for the Master's degree is administered by a professional division of the Graduate School. Study at the Master's level provides a foundation in theory, analysis, methods, and techniques of area planning and administration needed for professional practice in the Field of City and Regional Planning.

ADMISSIONS REQUIREMENTS

Applicants for the Master's program are expected to hold a Bachelor's degree from a recognized institution. The degree may be a professional degree from such fields as engineering, planning, architecture, or landscape architecture; an academic degree from the social sciences such as economics, political science, public administration, sociology or geography; or a degree from a field such as mathematics or history.

All applicants resident in the United States during the year preceding matriculation must submit scores of the Graduate Record Examination Aptitude Tests with their other credentials.

FIELD REQUIREMENTS

The course of study for the degree of Master of Regional Planning ordinarily requires two years. Students in the College of Architecture or in the School of Civil Engineering at Cornell who are interested in graduate study in City and Regional Planning may, with the permission of their faculty advisers and approval of the chairman of the Department of City and Regional Planning, follow a specialized undergraduate program which may enable them, if admitted as graduate students, to earn the degree of Master of Regional Planning in three terms of graduate study.

Students in their first year follow a prescribed program of courses which provides training in the basic elements of planning. These include studies in theory, history, analytical methods, design, and administration. The second year provides opportunities for students to pursue several of these subjects at a more advanced level or to concentrate on intensive studies in a specialized aspect of planning. With the assistance of his faculty adviser, a student may select courses from a list of approved electives in theory and history of urban design, in research and analysis, in administration or in regional studies. Elective courses outside the Field, but relevant to the specialized interests of the student, may also be taken.

A summer office practice and training program is offered in New York City. It is designed to provide work experience in planning agencies and consulting firms in the New York metropolitan area, combined with lectures, seminars, and field trips. Graduate credit is given, but participation in the program is not required for the M.R.P. degree.

Further information about admissions, the course of study, financial aid, research assistantships, and teaching fellowships may be obtained by writing to the Chairman, Department of City and Regional Planning, Sibley Hall.

Doctor of Philosophy

MAJOR AND MINOR SUBJECTS

City Planning

Regional Planning

FIELD REQUIREMENTS

Language Requirements:

1. Reading proficiency in two of three languages: French, German or Russian; or

2. Reading and speaking proficiency in one of the three languages listed above.

3. Foreign students whose native language is not English, may substitute English for any *one* of the three languages under (1).

The candidate may, with the recommendation of his Special Committee, petition the Field to (a) substitute any language for one of the languages listed under (1); (b) substitute any language under (2).

For admission to the Ph.D. program with a major in City Planning or Regional Planning, a Master's degree in City or Regional Planning with course work equivalent to that required in the program at Cornell is ordinarily required. Candidates who lack the equivalent of this training or who hold the Master's degree in a related field and have had acceptable experience in city or regional planning practice or research may be required to take additional course work at the Master's level.

Candidates for the Ph.D. degree proposing to major in this Field must select a major subject from the two listed above. It is the policy of the Field to encourage selection of both minor subjects from related subjects outside the Field. Prospective students should therefore consult the Announcements of the various Areas of the Graduate School for descriptions of other subjects such as administrative engineering, aerial photographic studies, agricultural economics, architectural history, comparative government, econometrics and economic statistics, economic development, economic theory, housing and design, law, natural resources conservation, operations research, the political process, political theory, public administration, research methodology, sociology, statistics, sanitary engineering, and transportation engineering.

Since work for the Ph.D. is considered preparatory to making creative contributions to the discipline, substantial competence and knowledge of basic analytical and research methods will be required. Candidates may fulfill this requirement by preparation previous to entrance or by course work at Cornell which may be in a minor subject. Candidates for the Ph.D. degree are expected to present a thesis of either a theoretical or applied nature.

Requirements for a minor subject in the Field, while less rigorous than those for a major, presume a suitable preparation for advanced work.

Research and Study Opportunities

The Department of City and Regional Planning conducts a program of research in urban and regional studies in cooperation with the Center for Housing and Environmental Studies. Research activities are closely related to and derived from faculty interests and specializations. The faculty interests are as follows:

John Alderidge: urban renewal, planning and development, community development policy.

Pierre Clavel: planning theory and administration.

Stanislaw Czamanski: economic analysis for planning, including urban growth models, regional social accounts, regional applications of input-output analysis, location theory, housing economics, and urban land economics.

Allan G. Feldt: urban sociology, human ecology, urbanization, comparative metropolitan studies, demography, methodology, and operational gaming.

Jack Carrington Fisher: urban and regional quantitative analysis, planning theory, regional development planning and administration, and socialist city and regional planning.

Michael Hugo-Brunt: history of architecture, and city planning and development.

Barclay Gibbs Jones: urban and regional quantitative analysis, urbanization theory, planning theory, environmental health planning, and historic preservation.

Burnham Kelly: land use regulation, development controls, and the housing industry.

Thomas W. Mackesey: history of city planning, and university planning.

Kermit C. Parsons: comprehensive land use planning, institutional and urban university planning, urban design, urban renewal, and the history of college and university planning.

John W. Reps: land use regulation, planning administration, comparative planning and the history of city planning in the United States.

Stuart W. Stein: design of the urban environment, planning and urban design within the context of comprehensive planning, preservation of historic districts and the enhancement of the visual assets of the city.

Oliver C. Winston: application of operations research to planning problems, information systems.

In addition to the general fellowships of the University, the department makes a number of awards each year. These include several graduate research assistantships and teaching fellowships, several Richard King Mellon Charitable Trust Fellowships and Scholarships, and a number of Public Health Service Traineeships.

In addition, several national fellowship programs in the Field of City and Regional Planning are administered through the department. These include fellowship programs of the Department of Housing and Urban Development, NDEA Title IV, Sears, Roebuck Foundation, Loula D. Lasker Foundation, and the Pittsburgh Plate Glass Foundation.

Courses

Most courses in the Department of City and Regional Planning are open to students in any college of the University who have fulfilled the prerequisites and who have the consent of the instructor.

PLANNING HISTORY

PLANNING 700. HISTORY OF CITY PLANNING

Fall term. Credit three or four hours. Mr. Hugo-Brunt.

The history of the planning of communities from ancient times to the present.

PLANNING 702. SEMINAR IN THE HISTORY OF AMERICAN CITY PLANNING

Spring term. Credit two hours. Prerequisite: Planning 700 or permission of the instructor. Mr. Reps.

PLANNING 704. ARCHITECTURE AND PLANNING IN THE FAR EAST

Fall term. Credit three hours. Prerequisite: Architecture 400 or permission of the instructor. Mr. Hugo-Brunt.

An introduction to the evolution of architecture and urbanization in India, China, Thailand, Cambodia, and Japan.

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PLANNING 705. INTRODUCTION TO THE HISTORY OF LANDSCAPE ARCHITECTURE AND DESIGN

Spring term. Credit three hours. Prerequisite: permission of the instructor. Mr. Hugo-Brunt.

Classical landscape in the Mediterranean and the Middle East; the Islamic Byzantine tradition; medieval cityscape and the agrarian system; the Renaissance; landscape of gardens in Persia, India, China, Thailand, and Japan. The Victorians; landscape in North America; Colonial landscape; the twentieth century; horticulture and techniques; landscape in contemporary planning and architecture.

PLANNING 707. SEMINAR IN THE HISTORY OF COLONIAL CITY PLANNING

Spring term. Credit three hours. Prerequisite: permission of the instructor. Mr. Hugo-Brunt.

Colonial city and regional planning in Southeast Asia, Africa, South America, and Canada.

PLANNING 709. INFORMAL STUDY IN THE HISTORY OF CITY PLANNING

Either term. Credit as assigned. Open to advanced students by permission. Mr. Hugo-Brunt or Mr. Reps.

URBAN AND REGIONAL THEORY

PLANNING 710. PRINCIPLES OF CITY AND REGIONAL PLANNING

Fall term. Credit three hours. Mr. Reps.

A review of the basic influences in the development of cities. A general view of the theory and accepted practice of city and regional planning, including a study of the social, economic, and legal phases.

PLANNING 711. INTRODUCTION TO URBAN PLANNING

Spring term. Credit one hour. May not be taken for credit by those who have taken Planning 710. Staff.

A concise survey of urban planning for students seeking an introduction to the field.

PLANNING 712. INTRODUCTION TO HUMAN ECOLOGY

Fall term. Credit three hours. Mr. Feldt.

An examination of the form and development of the human community with respect to spatial, temporal, and functional patterns of organization. Demographic, environmental, and technological characteristics are treated as parameters relevant to the ecological structure of the community.

PLANNING 713. SEMINAR IN URBAN ECOLOGY

Spring term. Credit two hours. Prerequisite: Planning 712 or equivalent. Mr. Feldt.

A survey of major social science studies and theories of urban space and social development. Intended primarily for students with little or no previous training in the social sciences.

PLANNING 715. SEMINAR IN INDUSTRIAL LOCATION AND REGIONAL DEVELOPMENT

Fall term. Credit three hours. Mr. Czamanski.

Topics include interregional location theory and a review of various techniques of selecting optimum locations. The effects of new plants upon regional development are discussed as well as economic problems of declining open regions. Knowledge of mathematics and of modern quantitative methods is not a precondition for admission, but ability to master them during the course is assumed.

PLANNING 716. ADVANCED URBAN AND REGIONAL THEORY

Fall term. Credit two hours. Prerequisite: permission of instructor. Mr. Jones.

Seminar in the theory of urban spatial organization. Economic, technological, and social factors leading to urbanization and various kinds of spatial organizations will be explored. Major theoretical contributions to the understanding of intra-regional and intra-urban distribution of population and economic activity will be reviewed.

PLANNING 717. SEMINAR IN URBAN AND REGIONAL THEORY

Spring term. Credit two hours. Prerequisite: permission of instructor. Mr. Lee.

A continuation of Planning 716 concentrating on recent developments.

PLANNING 719. INFORMAL STUDY IN URBAN AND REGIONAL THEORY

Either term. Credit as assigned. Prerequisite: permission of instructor. Mr. Jones.

PLANNING THEORY, ADMINISTRATION, AND IMPLEMENTATION

PLANNING 721. CITY PLANNING ADMINISTRATION

Fall term. Credit two hours. Prerequisite: Planning 710 or permission of the instructor. Mr. Clavel.

An examination of the principal administrative problems in planning, including the organization of the municipal planning agency, office management, relations with legislative bodies and executive departments, public works programming, public relations activities, metropolitan planning agencies, and state and federal planning assistance programs.

PLANNING 722. SEMINAR IN PLANNING THEORY

Fall term. Credit two hours. Prerequisite: permission of the instructor. Mr. Jones.

A seminar course consisting of a survey of the works of scholars who have contributed to current thinking about planning theory. The course deals with alternative assumptions concerning models of man and theoretical concepts concerning the nature of planning today.

PLANNING 723. LEGAL ASPECTS OF PLANNING

Spring term. Credit two hours. Prerequisite: Planning 710 or permission of the instructor. Mr. Reps.

Legal aspects of preparing and administering zoning ordinances, subdivision regulations, housing codes, official map regulations, and related subjects.

PLANNING 724. INFORMAL STUDY IN PLANNING ADMINISTRATION

Either term. Credit as assigned. Prerequisite: permission of instructor. Mr. Self.

PLANNING 725. INFORMAL STUDY IN LEGAL ASPECTS OF PLANNING

Either term. Credit as assigned. Prerequisite: permission of instructor. Mr. Kelly.

PLANNING 726. URBAN LAND POLICY AND PROGRAMS

Fall term. Credit two hours. Prerequisite: Planning 723 or permission of the instructor. Mr. Reps.

Consideration of major problems of urban land control and management and possible solutions. Subjects for discussion include taxation as a method of land use planning, compensation and betterment, large scale public land acquisition, subsidies and incentives, and acquisition of development rights or easements. Several public planning systems of other countries will be studied, contrasted with the United States, and evaluated.

PLANNING 730. PLANNING ANALYSIS

Fall term. Credit four hours. Mr. Jones.

Introduction to methods of city and regional planning analysis. Planning is considered as a method of decision making with the purpose of achieving a command over the major tools for problem identification, analysis, and resolution. Laboratory in governmental information systems.

PLANNING 731. ADVANCED PLANNING ANALYSIS

Spring term. Credit four hours. Prerequisite: Planning 730. Messrs. Lee and Czamanski.

City planning applications of general analytical techniques of social sciences; population, economic, land-use, and transportation models.

PLANNING 732. SEMINAR IN REGIONAL SOCIAL ACCOUNTING

Fall term. Credit three hours. Mr. Czamanski.

An advanced seminar in methods of construction and regional application of social accounting. Topics covered include income and product accounts, balance of payments, money flows, wealth accounting. Extensive references are made to methods used in various countries and to recent regional case studies.

PLANNING 733. SEMINAR IN REGIONAL INTERINDUSTRY ANALYSIS AND PROGRAMMING

Spring term. Credit three hours. Mr. Czamanski.

Advanced treatment of regional industrial structure, methods of construction and applications of input-output, linear programming, integer and non-linear programming, elements of game theory.

PLANNING 734. PLANNING METHODS AND TECHNIQUES

Spring term. Credit two hours. Prerequisite: Planning 710 or permission of the instructor. Mr. Parsons.

Standards and survey methods for measuring education, recreation, and other community facility needs. Commercial, industrial, and residential land-use planning; transportation, housing, and environmental quality surveys.

[PLANNING 735. RESEARCH METHODS IN PLANNING]

Spring term. Credit two hours. Mr. Feldt. Not offered in 1967-68.

Basic coverage of some of the more common research techniques used in the social sciences, including a survey of basic data sources, methods of survey research, ecological methods, and some of the more fundamental statistical methods. A number of the methods covered will be utilized in developing a

major research report in conjunction with requirements for the following year's field problem.

[PLANNING 736. SEMINAR IN URBAN GEOGRAPHIC ANALYSIS]

Fall term. Credit two hours. Mr. Fisher. Not offered in 1967-68.

Urban geography as related to the professional field of geography. Includes an introduction to the discipline of geography as a basis for an intensive review of the fundamental concepts and literature in the field of urban geography. Essential techniques of urban spatial analysis applicable to the field of urban planning. Historical interpretation methods relevant to the understanding of contemporary urban areas. Field and analytical methods of urban geography applied in case studies.

PLANNING 737. OPERATIONS RESEARCH IN PLANNING I

Fall term. Credit three hours. Prerequisite: Planning 731. Mr. Allderige.

Examination of basic systems models developed in industrial operations research. Their applicability to planning is studied. Models considered are simple linear, regressive, matrix, algebraic, elementary queuing, linear programming, and assignment. Also studied are introductory concepts of modeling and intermediate sampling processes.

PLANNING 738. OPERATIONS RESEARCH IN PLANNING II

Spring term. Credit three hours. Prerequisite: Planning 737. Mr. Allderige.

Advanced examination of more extensive systems models developed in industrial operations research and their applicability to planning. Considered, along with expanded changes of models studied in Planning 737, are complex regression analysis, factor analysis, simulation, stochastic processes, and competitive strategies. Emphasis on theories of the modeling process and an introduction to public systems design.

PLANNING 739. INFORMAL STUDY IN PLANNING ANALYSIS

Credit as assigned. Prerequisite: permission of instructor. Staff.

PLANNING DESIGN AND PRACTICE

PLANNING 740. INTRODUCTION TO PLANNING DESIGN

Fall term. Credit two hours. Required of all graduate planning students without undergraduate training in design. Mr. Stein.

Introduction to the tools of physical design and graphic presentation. Investigation of the sources of basic information for physical design, the formulation of a physical design program, the preparation of solutions to elementary design problems and presentation techniques.

PLANNING 741. PLANNING DESIGN

Spring term. Credit four hours. Graduate students in architecture may substitute one or more of the problems for required design studies in Architecture 190 with permission of their adviser. Messrs. Stein, Parsons, and visiting lecturers.

Lectures, seminars, and problems in the basic principles of site planning, subdivision large-scale, three-dimensional design, and the interrelationships of land uses in a variety of urban and metropolitan situations. Alternative patterns of urban development and their implications will be examined. Students are assigned a series of problems including the design of the neighborhood, the district, parts of the existing city, and the new town. Students will work individually and in teams.

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PLANNING 742. FIELD PROBLEM IN URBAN PLANNING

Fall term. Credit six hours. Prerequisites: Planning 731 and 741 or permission of the instructor. Messrs. Stein, Parsons, Feldt, and visiting lecturers.

Research and analysis in an urban area leading to the preparation of comprehensive plans and effectuation programs; use of operational gaming techniques in the planning process; lectures, field trips, and individual and group reports.

PLANNING 743. CITY PLANNING PRACTICE

Summer term. Credit three hours. Open to graduate students in planning and others by permission. Messrs. Stein, Parsons, staff, and visiting lecturers.

Summer internship in New York metropolitan area in public planning, development and renewal agencies, or planning consultants' offices, combined with lectures and discussions two evenings a week and field trips in the New York area and to other East Coast cities. (Instruction period for the course in the College of Architecture New York City Program facilities is limited to July and August.)

PLANNING 744. SEMINAR IN URBAN DESIGN I

Fall term. Credit two hours. Prerequisites: Architecture 105 or Planning 740 and permission of the instructor. Mr. Parsons.

Investigation of historical and current thought on the visual aspects of cities, including evaluation of technological and cultural influences on urban design, perception of urban form, and relationships between contemporary city planning process and visual form in cities.

[PLANNING 745. SEMINAR IN URBAN DESIGN II]

Spring term. Credit two hours. Prerequisite: 744 or permission of the instructor. Mr. Stein. Not offered in 1967-68.

Case studies of urban design projects presented by various faculty members and visitors plus independent research to allow students to pursue urban design issues in depth.

PLANNING 746. DESIGN AND CONSERVATION

Fall term. Credit two hours. Messrs. Jacobs and Jones.

The rationale for and methods of utilizing existing cultural and aesthetic resources in the planning and design of regions and cities.

PLANNING 747. SYSTEMS DESIGNING

Spring term. Credit two hours. Prerequisite: Planning 731. Mr. Allderige.

Thorough study of the designing process in the planning context. Using first simple, then complex examples, the aim is to define the designing process explicitly, then explore different formal and informal methods of producing public systems designs or plans.

PLANNING 748. WORKSHOP IN HEURISTIC GAMING TECHNIQUES

Fall term. Credit two hours. Limited enrollment with priority to students taking the planning field problem currently. Mr. Feldt and staff.

Exploration and use of a limited number of heuristic gaming devices dealing with problems in planning and urban theory. Special attention will be given to models representing the community under analysis in the field problem as well as to models dealing with more abstracted urban and regional configurations.

PLANNING 749. INFORMAL STUDY IN URBAN DESIGN

Either term. Prerequisite: permission of instructor. Staff.

URBAN RENEWAL AND HOUSING

PLANNING 751. SEMINAR IN URBAN RENEWAL

Spring term. Credit two hours. Prerequisite: Planning 710 or permission of the instructor. Mr. Winston.

An exploration of current programs to revitalize our cities, the concepts of blight and urban renewal, and discussion of current policies and procedures in federal, state, and local government.

PLANNING 753. THE ECONOMICS OF INTRA-METROPOLITAN LAND USE

Spring term. Credit two hours. Prerequisite: permission of instructor. Mr. Czamanski.

The spatial arrangement of urban functions, value as determinant of land use, measurement methods, urban structures and forms, public interest and controls, urban renewal and redevelopment, social and economic costs and benefits. Location of residential and industrial areas and retail center.

PLANNING 759. INFORMAL STUDY IN HOUSING AND URBAN RE-NEWAL

Either term. Prerequisite: permission of instructor. Messrs. Kelly, Parsons, and Stein.

REGIONAL AND COMPARATIVE PLANNING

PLANNING 760. SEMINAR IN REGIONAL PLANNING

Spring term. Credit two hours. Prerequisite: Planning 710 or permission of the instructor. Mr. Goldsmith.

Designed as the basic course in regional planning. The guide lines of regional planning and the nature of regional planning under various social and economic conditions. An introduction to regional planning techniques and methodology, and a survey of the character of regional planning in several countries.

[PLANNING 761. STATE PLANNING]

Spring term. Credit two hours. Prerequisite: Planning 760 or permission of the instructor. Mr. Fisher. Not offered in 1967-68.

History of state planning and the current status and trends in state planning in the United States. Emphasis will be given to an analysis of contemporary state planning functions, administrative position of the state planning agency, federal-state relations, state and regional planning, coordination of the state planning agency and other state agencies, and the place of functional planning at the state level.

[PLANNING 762. SOVIET AND EAST EUROPEAN REGIONAL AND URBAN PLANNING]

Fall term. Credit two hours. Prerequisite: Planning 710 or permission of the instructor. Mr. Fisher. Not offered in 1967-68.

Brief survey of the history, contemporary organization, and trends of Soviet and East European planning. Intended to provide an understanding of the professional nature of Soviet and East European planning, a familiarization with basic planning literature, and an introduction to Soviet and East European planning techniques. Contrasts between the Soviet and the East European organization and approach will be stressed.

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PLANNING 763. REGIONAL PLANNING AND DEVELOPMENT IN DEVELOPING COUNTRIES

Spring term. Credit two hours. Prerequisite: Planning 760 or permission of the instructor. Mr. Golany.

The status of regional planning in developing countries. The strategy of regional development and implementation of physical planning goals. Examination of regional planning activities in two or three countries and evaluation of project implementation and effectiveness.

[PLANNING 767. INFORMAL STUDY IN URBAN GEOGRAPHY]

Credit as assigned. Prerequisite: permission of instructor. Mr. Fisher. Not offered in 1967-68.

PLANNING 768. INFORMAL STUDY IN COMPARATIVE PLANNING

Fall term. Credit as assigned. Open to advanced students by permission. Mr. Golany.

PLANNING 769. INFORMAL STUDY IN REGIONAL PLANNING

Either term. Credit as assigned. Prerequisite: permission of instructor. Staff.

ENVIRONMENTAL HEALTH PLANNING

PLANNING 770. ENVIRONMENTAL HEALTH PLANNING

Fall term. Credit two hours. Messrs. Jones and Riordan.

Introduction to concepts and issues in environmental health planning. Topics covered include the planning problems involved in the control of water quality, liquid and solid waste disposal, air quality, and housing quality.

PLANNING 771. ENVIRONMENTAL HEALTH PLANNING MODELS

Spring term. Credit two hours. Mr. Riordan.

Survey and discussion of current efforts to use quantitative methods in analysis, design, and implementation in the environmental health planning process. Specific applications of mathematical modeling to the problems of planning for the management and control of wastes discharged to air, water, and land resources will be examined. Techniques discussed will include: linear programming, dynamic programming, diffusion models, regression and correlation analysis, and simulation.

PLANNING 774. SEMINAR IN NEIGHBORHOOD THEORY

Spring term. Credit three hours. Limited enrollment with consent of instructors required. Messrs. Feldt and Stein.

An examination of the concept of neighborhood in urban society based upon a consideration of the interrelationship between design elements and human behavior. Major theoretical and empirical approaches to the neighborhood will be reviewed and placed in the context of recently developing thought, practice, and research in urban planning theory.

PLANNING 775. NEIGHBORHOOD THEORY

Fall term. Credit three hours. Prerequisite: Planning 774 or permission of the instructor. Messrs. Hurtt, Stein, and Feldt.

An advanced seminar on environmental health planning in neighborhoods, continuing the exploration of physical and social relationships in the design of the residential environment. Special emphasis is given to the decisions of the urban designer and the architect concerning physical aspects of the neighborhood and their relevance to social and psychological goals.

PLANNING 779. INFORMAL STUDY IN ENVIRONMENTAL HEALTH PLANNING

Either term. Credit as assigned. Prerequisite: permission of instructor. Staff.

SOCIAL AND SOCIAL FACILITIES PLANNING**[PLANNING 780. HUMAN RESOURCE DEVELOPMENT PROBLEMS IN THE METROPOLIS]**

Fall term. Credit two hours. Mr. Cohen. Not offered in 1967-68.

Introduction to systems of planning for human resource development. Review of social, health, and educational problems and programs, and their relationship to urban development.

PLANNING 781. CASE STUDIES IN HUMAN RESOURCE DEVELOPMENT PLANNING

Spring term. Credit two hours. Mr. Seessel.

A review of methods and techniques of planning for human resource development. Specific illustrations from the field of social, health and educational planning, as well as more comprehensive social planning efforts, will be examined.

PLANNING 785. INSTITUTIONAL PLANNING

Spring term. Credit two hours. Prerequisite: Planning 710 or 730 or permission of the instructor. Mr. Parsons.

A seminar in programming and area planning of facilities for institutions including universities, medical centers, and churches. Administrative organization, space use studies, program development, location and function analysis, enrollment projection, and institutional systems. Application of city planning techniques to institutional planning.

PLANNING 789. INFORMAL STUDIES IN SOCIAL AND SOCIAL FACILITIES PLANNING

Either term. Credit as assigned. Staff.

THESES**PLANNING 790. THESIS IN CITY OR REGIONAL PLANNING**

Either term. Credit as assigned.

Independent research by candidates for the Master's degree.

PLANNING 799. DISSERTATION IN CITY OR REGIONAL PLANNING

Either term. Credit as assigned.

Advanced independent research by candidates for the Ph.D. degree.

ECONOMICS

Faculty: George P. Adams, Jr., Nai-Ruenn Chen, M. Gardner Clark, Tom E. Davis, Melvin de Chazeau, Douglas F. Dowd, W. Duane Evans, John C. H. Fei, Walter Galenson, Frank H. Golay, George M. Hildebrand, John G. B. Hutchins, Alfred E. Kahn, Robert W. Kilpatrick, Ta-Chung Liu, Chandler Morse, Richard T. Selden, George J. Staller, Bernt P. Stigum, Jaroslav Vanek, George M. von Furstenburg.

Visiting Professors 1967-68:

Geza Feketekuty, Instructor, Department of Economics, Princeton University;

Ronald Jones, Professor of Economics, University of Rochester;

Michael McPhelan (Father), Ateneo de Manila, Philippines;

L. Roy Webb, Professor of Economics, University of Melbourne, Australia.

Field Representative: Richard T. Selden, 263 Goldwin Smith Hall.

MAJOR AND MINOR SUBJECTS

Econometrics and Economic Statistics	Industrial Organization and Control
Economic Development and Planning	International Economics
Economic History	Labor Economics
Economic Theory	Monetary and Financial Economics
History of Economic Thought	Public Finance and Fiscal Policy

All candidates resident in the United States during the year preceding matriculation at Cornell must take the Graduate Record Examination Aptitude Test. There are no fixed admission requirements. However, grades, class standing, GRE scores, and letters of recommendation, considered collectively, must indicate superior scholastic ability and motivation.

A Program on Comparative Economic Development has been established by the Department to do research on developing economies, using a combination of theoretical, historical, quantitative, and institutional approaches. Teaching fellowships and opportunities for field work will be available to qualified graduate students. Further information may be obtained by writing to the Director of the Program on Comparative Economic Development, the Department of Economics.

Students majoring in this Field should consult the descriptions in this Announcement of the Fields of Agricultural Economics, Business and Public Administration, and Industrial and Labor Relations for other subjects related to the work in economics.

In addition to their major and two minors, doctoral candidates will be required to demonstrate competence in economic theory, its history, and its methodology, the latter including economic statistics, social accounting, and (except when the major adviser explicitly approves an exemption) mathematical economics. A student who elects as a major or minor any of these required subjects must broaden his program by taking work in "outside subjects" approved by his Special Committee.

All candidates for advanced degrees who elect a minor in economics will be held for work in economic theory and its history.

Candidates for the Ph.D. degree with a major in Economics are encouraged to elect one minor subject in another Field.

Applications for fellowships and scholarships in Economics should be filed with the Dean of the Graduate School prior to the deadline date (see Calendar). Applications for teaching fellowships, however, should be made directly to the Chairman of the Department of Economics.

The Field of Economics requires that every graduate student demonstrate high proficiency (a professionally usable reading or speaking command) in one language or a normal reading proficiency in two languages in addition to his native language.

Within his first year of residence each Ph.D. candidate in the Field of Economics must pass an oral qualifying examination administered by his Special Committee. The purpose of the qualifying examination is to determine the student's qualification to pursue all aspects of a Ph.D. program. A member of the Special Committee who is satisfied with the student's qualifications in the subject which the member represents may pass him in that subject without

formal testing. On the basis of the qualifying examination the Special Committee will work out with the student his graduate program.

Faculty Specializations

Evans, Liu, Stigum: econometrics and economic statistics.

Clark, Davis, Fei, Golay, Morse, Staller, Vanek: economic development and planning.

Dowd, Hutchins: economic history.

Adams, Fei, Hildebrand, Selden, Stigum, Vanek, Webb: economic theory.

Adams, Hildebrand: history of economic thought.

de Chazeau, Kahn: industrial organization.

Davis, Golay, Jones, Morse, Staller, Vanek: international economics.

Galenson, Hildebrand: labor economics.

Davis, Selden: monetary and financial economics.

Feketekuty, Kilpatrick, von Furstenburg: public finance and fiscal policy.

Graduate Courses and Seminars

The following course listings are tentative, intended for the student's information. The department office should be contacted for definite course offerings, times, places, etc.

511. PRICE AND ALLOCATION THEORY

Fall and spring terms. Credit four hours. Prerequisite: consent of the instructor. Fall term, T Th 1:25-2:40. Mr. Webb. Spring term, M W F 11:15. Mr. Hildebrand.

Theories of utility, demand, production, and pricing, with special emphasis on recent developments.

512. MACROECONOMIC THEORY

Fall and spring terms. Credit four hours. Prerequisite: consent of the instructor. Fall term, T Th S 9:05. Mr. Webb. Spring term, M W F 10:10. Mr. Selden.

Analysis of the determination of national income, the price level, and economic growth.

521-522. EUROPEAN ECONOMIC HISTORY

Throughout the year. Credit four hours a term. Hours to be arranged. Mr. Dowd.

523-524. AMERICAN ECONOMIC HISTORY

Throughout the year. Credit four hours a term. Hours to be arranged. Mr. Fleisig.

561-562. INTERNATIONAL ECONOMIC THEORY AND POLICY

Throughout the year. Credit four hours a term. Hours to be arranged. Mr. Feketekuty.

565. ECONOMIC PROBLEMS OF LATIN AMERICA

Mr. Davis.

88 ECONOMICS

571-572. ECONOMIC GROWTH AND DEVELOPMENT

Throughout the year. Credit four hours a term. Hours to be arranged. Messrs. Golay and Morse.

611. ADVANCED MICROECONOMIC THEORY

Fall term. Mr. Fei.

612. ADVANCED MACROECONOMIC THEORY

Spring term. Department faculty.

613-614. HISTORY OF ECONOMIC THOUGHT

Throughout the year. M 2-4. Mr. Adams.

615. BUSINESS CYCLES AND GROWTH

Fall term. Mr. Selden.

616. INTERMEDIATE MATHEMATICAL ECONOMICS

Spring term. M W 1:25-2:40. Mr. Evans.

617-618. MATHEMATICAL ECONOMICS

Throughout the year. Mr. Stigum.

619-620. ECONOMETRICS

Throughout the year. Mr. Liu.

621-622. EUROPEAN ECONOMIC HISTORY

Throughout the year. Mr. Dowd.

623. AMERICAN ECONOMIC HISTORY

Fall term. Mr. Fleisig.

624. SELECTED PROBLEMS IN THE HISTORY OF THE
INTERNATIONAL ECONOMY 1800-1939

Spring term. Mr. Fleisig.

631-632. MONETARY THEORY AND POLICY

Throughout the year. Mr. Selden.

635-636. PUBLIC FINANCE: THEORY AND POLICY

Throughout the year. Mr. Kilpatrick.

641-642. LABOR ECONOMICS

Throughout the year. Messrs. Galenson and Hildebrand.

651-652. INDUSTRIAL ORGANIZATION AND REGULATION

Throughout the year. Mr. Kahn.

661-662. INTERNATIONAL ECONOMICS

Throughout the year. Messrs. Davis and Jones.

663-664. ADVANCED INTERNATIONAL ECONOMICS

Mr. Vanek.

671-672. ECONOMICS OF DEVELOPMENT

Throughout the year. Mr. Morse and others.

673-674. ECONOMIC PLANNING

Throughout the year. Mr. Staller.

675. ECONOMIC GROWTH MODELS

Fall term. Mr. Fei.

676. THE ECONOMY OF CHINA

Spring term. Mr. Chen.

678. ECONOMIC GROWTH IN SOUTHEAST ASIA

Spring term. Mr. Golay.

679. THEORY OF ECONOMIC DEVELOPMENT

Spring term. Prerequisite: Economics 675. Mr. Fei.

685. SEMINAR IN MATHEMATICAL ECONOMICS (Mathematics 679)

Spring term. F 4-6. Messrs. Stigum and Wolfowitz.

SEMINAR IN ECONOMIC STATISTICS (Industrial and Labor Relations 610)

Fall term. Mr. Evans.

EDUCATION

Faculty: Howard G. Andrus, Joe P. Bail, Mark B. Beach, Sara E. Blackwell, Robert L. Bruce, Ralph N. Campbell, Jean Cooper, Harold R. Cushman, Stanley W. Davis, Robert E. Doherty, William E. Drake, Arthur E. Durfee, Joan R. Egner, Robert H. Ennis, Jean Failing, Richard B. Fischer, Felician F. Foltman, Harrison A. Geiselmann, Marvin D. Glock, D. Bob Gowin, John S. Harding, Lawrence B. Hixon, Mauritz Johnson, H. Peter Kahn, J. Paul Leagans, Harry Levin, Stanley R. Levy, William T. Lowe, George W. McConkie, Jason Millman, Marion E. Minot, A. Gordon Nelson, Helen Y. Nelson, Benjamin Nichols, Joseph D. Novak, Walter J. Pauk, Isabel J. Peard, Kathleen Rhodes, Richard E. Ripple, Verne N. Rockcastle, Frederick H. Stutz, Wayne E. Thompson, Frederick K. T. Tom, Helen L. Wardeberg.

Field Representative: Verne N. Rockcastle, 3 Stone Hall.

MAJOR SUBJECTS

Agricultural Education
Curriculum and Instruction
Development of Human Resources
Educational Administration and Supervision
Educational Psychology and Measurement
Extension and Adult Education
Guidance and Student Personnel Administration
History, Philosophy, and Sociology of Education
Home Economics Education
Science and Nature Education

MINOR SUBJECTS

Agricultural Education
Curriculum and Instruction
Development of Human Resources
Education
Educational Administration and Supervision
Educational Psychology and Measurement
Extension and Adult Education
Guidance and Student Personnel Administration
History, Philosophy, and Sociology of Education
Home Economics Education
Science and Nature Education

The Graduate Field of Education is engaged in both the study of education and the preparation of professional practitioners. Its concern includes educational aims, objectives, learning theory, curriculum, instruction, educational organization, and administration.

ENTRANCE REQUIREMENTS. All applicants for admission with majors in education — M.A., M.S., M.A.T., Ed.D., Ph.D. — residing in the United States or Canada, whose native language is English, are required to submit a score from the Miller Analogies Test or the Graduate Record Examination (Aptitude Test) before admission. This applies to both the general and professional degrees. An applicant who needs information concerning the location of a center where he may conveniently go for testing should write to the Field Representative in Education, Stone Hall.

GRADUATE DEGREES. Students majoring in the Field of Education may be admitted for either of two types of advanced degrees. Requirements for the *general degrees* of M.A., M.S., and Ph.D., administered by the Graduate School, are stated in this Announcement as are requirements for the professional degrees administered by the Field of Education of the Graduate School. (See also pages 197–198 of this Announcement.)

LANGUAGE REQUIREMENT. In the Field of Education, a candidate for the degree of Ph.D. must demonstrate reading ability in one language (in addition to his native language) selected in consultation with the chairman of the candidate's Special Committee.

RESIDENCE. Each candidate for an advanced degree is expected to complete his residence with reasonable continuity. Under any circumstances, a candidate who fails to register during any period of four or more years may continue only after the General Committee of the Graduate School has stipulated the amount of additional residence to be required. The Committee will be guided in its decision by an estimate, written by the candidate's Special Committee, of the period of study necessary to recover lost ground. A candidate must complete all requirements for a Master's degree within four years, and for a doctoral degree within seven years of the time of first registration in the Graduate School.

Residence credit earned during candidacy for professional Masters' degrees at Cornell or elsewhere may be transferred toward meeting the residence requirements for a doctoral degree in an amount not exceeding two units. The amount transferable is dependent upon an evaluation of the candidate's program and the manner in which the residence was earned.

Financial Aid

A number of graduate fellowships, scholarships, research assistantships, and teaching fellowships are available in the Field of Education. Requests for application forms and additional information concerning any of these opportunities should be addressed to the Head, Department of Education, Stone Hall. Fellowships are applied for on the application for admission to Graduate School. Completed applications must be received by February 1. Notification is given by April 1.

Students who are awarded research assistantships or teaching fellowships ordinarily spend twenty hours a week helping with instruction, research, or extension work. These students are eligible for residence units according to regulations of the Graduate Faculty. Stipends vary in amount from \$2472

to \$3296, with appointments ranging from nine to twelve months. In the College of Agriculture and the College of Home Economics, tuition is waived for holders of these appointments.

A limited number of teacher associateships are available to students enrolled in the M.A.T. program. Information on the fields in which these may be available, as well as application forms and additional information, may be obtained by writing to the Head, Department of Education, Stone Hall.

Professional Degrees

Advanced professional degrees in education are designed as preparation for the professions in education. The admissions processes, requirements, and curricula for such degrees, as approved by the Graduate Faculty, are announced and administered by the faculty of the School of Education, acting as a Field of the Graduate School. Degrees are awarded upon recommendation of the School of Education to the Graduate Faculty. Two professional degrees, Master of Arts in Teaching and Doctor of Education, are awarded.

It is the responsibility of the candidate to become familiar with the various regulations which apply to his degree candidacy and to satisfy them in the proper manner. Most of the regulations are contained in the *Code of Legislation of the Graduate Faculty, Cornell University*; they are supplemented in the *Announcement of the School of Education*.

THE DEGREE OF MASTER OF ARTS IN TEACHING (M.A.T.)

The degree of Master of Arts in Teaching (M.A.T.) is designed for those with a baccalaureate degree, planning to undertake professional preparation in the fifth year. Teaching fields for this degree include agriculture, English, French, German, home economics, Latin, mathematics, Russian, the sciences, history and social sciences, Spanish, and speech in the secondary schools, and grades 1-6 of the elementary schools.

ADMISSION. Applicants must have considerable depth of preparation in their intended teaching field and give evidence of ability necessary for successful progress in graduate study. They also must give evidence of a serious career interest in teaching.

RESIDENCE. A minimum of two regular semesters and one summer of full-time study, or two and two-fifths residence units, is required. Residence units may be earned as follows:

1. Regular terms of full-time or part-time registration during the academic year.

2. Summer registration.

3. Extramural registration. (Not more than one unit of residence earned extramurally may be counted.)

Full-time study will be required in all but exceptional cases.

SPECIAL COMMITTEE. A candidate will select a Special Committee of two or more members of the Graduate Faculty, one of whom will represent the Field of Education and serve as chairman. The chairman normally will belong to one of the teacher preparation specializations. Other members of the Committee are to be selected with the advice of the chairman to give adequate representation of the candidate's program. For a candidate preparing for secondary school teaching, the teaching field will be represented.

PROGRAM OF STUDIES. The program will be determined by the candidate and his Special Committee. It will include those courses, seminars, and other experiences in the professional area and in the teaching field or fields which are deemed most appropriate for developing competence as a teacher. Each candidate will be required to demonstrate teaching skill in a supervised field experience.

FINAL EXAMINATION. A candidate must pass a final examination conducted by the Special Committee. The examination may be written or oral or both. It shall be comprehensive in nature and designed to evaluate the candidate's knowledge in the teaching field as well as in the theory and practice of teaching.

THE DEGREE OF DOCTOR OF EDUCATION (ED.D.)

Programs for this degree are designed to prepare the candidate for positions of leadership in the educational profession. Positions for which such preparation is available are administrator, coordinator, curriculum specialist, extension specialist, student services specialist, supervisor, and teacher.

ADMISSION TO PROGRAM. Applicants must have completed a minimum of three years of successful experience appropriate to their proposed field of professional service. They also must show evidence, based on previous training, of scholastic ability and other qualifications necessary for successful progress in graduate study, field experience, and professional work.

RESIDENCE. A minimum of five units of residence is required beyond the Bachelor's degree, of which at least three units must be earned in residence at Cornell. Two units of residence beyond the Master's degree or its equivalent must be earned at Cornell in regular terms, consecutive except on petition.

The maximum number of residence units which may be earned through Extramural registration or in Summer Sessions at Cornell or in similar manner at other centers of graduate study is two.

In addition to meeting residence requirements, a candidate must complete successfully one year of participation in Directed Field Experience as described in subsequent statements.

PROGRAM OF STUDIES. The program of studies, designed to develop competence in a field of professional service and in the general field of professional education, must include a minimum of sixty-five credit hours in courses and seminars beyond the Bachelor's degree, of which thirty-five hours shall be completed beyond the Master's degree or its equivalent.

The program must include advanced work in each of these subjects: educational psychology, history and philosophy of education, educational measurement and statistics, and research in education. At least fifteen hours of credit must be earned in courses other than those in professional education.

The transfer of credit earned in institutions other than Cornell University must be recommended by the Special Committee and approved by the Dean of the Graduate School.

DIRECTED FIELD EXPERIENCE. In keeping with the primary emphasis in the program for the Ed.D. degree, a minimum of two consecutive academic terms of full-time experience appropriate to the candidate's field of professional service is required. This period of participation, known as Directed Field Experience, will follow completion of a minimum of two units of residence at Cornell beyond the Master's degree or its equivalent.

The opportunity for the Field Experience is to be sought by the candidate with the advice and assistance of the Special Committee. The proposed plan for experience must be approved by the Committee. The opportunity sought must afford those practical experiences which the candidate and his Committee have identified to be needed in acquiring competence in the field of professional service for which the degree program has been designed.

Successful completion of the Directed Field Experience is prerequisite to recommendation of the candidate for the degree.

THESIS. The candidate is required to present a thesis which will give evidence of his ability to apply knowledge to a professional problem. The thesis must satisfy the Special Committee in respect to both professional proficiency and literary quality.

EXAMINATIONS. Two examinations are required for the degree in addition to the entrance examination required of all candidates. These are (1) a qualifying examination and (2) a two-part Final Examination. Although other members of the faculty may be invited to participate in these examinations, the Special Committee alone decides whether the candidate has passed or failed.

QUALIFYING EXAMINATION. This examination is both written and oral and is given before or during the third unit of residence. It has the double purpose of determining the ability of the candidate to pursue further studies and of allowing the Special Committee and the candidate to plan a satisfactory program for completion.

FINAL EXAMINATION. The candidate is required to pass a Final Examination given by the Special Committee and other members of the faculty who may be invited to attend. The examination must be given in two parts — one part on the field of professional service and core studies in education (Examination A), which may be taken at the end of the fourth unit of residence; the second part on the thesis (Examination B), is taken after the thesis is approved by the Special Committee. Examination A may be written or oral or both. Examination A and B may precede or follow the period of Directed Field Experience.

The differences between the general degree programs and those of the professional degrees relate to the manner of meeting residence requirements, the emphasis on research, the specification of hours of credit required, the selection of major and minor subjects, the program of studies, and language requirements.

The Subjects in Education

The Field of Education includes several subjects. The information below briefly presents the professional opportunities, areas of study and research, and the courses for each subject.

EDUCATIONAL ADMINISTRATION AND SUPERVISION

Mrs. Joan R. Egner, Lawrence B. Hixon, Miss Helen L. Wardeberg.

For a major in this subject, the candidate must demonstrate proficiency in the following areas of knowledge: (a) theoretical concepts of administration and supervision, (b) understanding of the basic disciplines undergirding the

relationships between individuals and groups within an organization and between organizations, (c) identification and conduct of research in educational administration, and (d) environmental factors which influence the educational enterprise. Research interests of members of the Division include statistical models of conformity deviance, educational leadership, and environmental influences on organizational behavior.

ED. 561. THEORY AND PRACTICE OF ADMINISTRATION

Fall term. Credit three hours. Mrs. Egner.

The goal is to give the student understanding and practice in the use of behavioral science concepts for analyzing human behavior in formal organizations. Students will be required to apply course concepts to the analysis and discussion of cases. The course provides explicit instruction and practice in defining administrative problems, evaluating various kinds of evidence, exploring possible courses of action, making definite decisions, and setting forth programs of action to implement these decisions.

ED. 562. THE SECONDARY SCHOOL PRINCIPALSHIP

Spring term. Credit three hours. Mr. Hixon.

Critical analysis of problems of the secondary school principalship as related to function of the secondary school, its curriculum appraisal of teaching and learning, pupil characteristics, and patterns of organization of personnel and resources.

ED. 563. ELEMENTARY SCHOOL ADMINISTRATION

Spring term. Credit three hours. Given in alternate years. Mrs. Egner.

Organized to enable recognition and cognition of the administrative functions essential to an effective elementary school. Analysis will include the elementary school as a unique institution, innovation in organization and curriculum, administration of instructional and non-instructional personnel, and community relationships.

ED. 564. SCHOOL FINANCE AND FACILITIES

Spring term. Credit three hours. Prerequisite: Ed. 561 or equivalent. Mr. Hixon.

The role of the administrator in providing leadership in the provision and maintenance of funds and facilities. Marshaling personnel and material for school operation. Sources of school support. Estimation, interpretation, and management of expenditures. Planning, constructing, and financing a school building. Utilization, operation, and management of the school plant. Records, accounts, reports, and audits.

ED. 565. EDUCATIONAL SUPERVISION

Spring term. Credit three hours. Miss Wardeberg.

A basic course in the nature and scope of supervision; fundamental principles and various procedures will be considered. Open to those already in supervisory positions, either in school work or elsewhere, and experienced persons aspiring to become supervisors.

ED. 567. EDUCATION LAW

Fall term. Credit three hours. Mr. Hixon.

A study of education law with particular emphasis on New York State legislation, court decisions, opinions, and regulations which affect the schools of the state. Additional attention is given to federal legislation and court decisions.

ED 569. PERSONNEL ADMINISTRATION IN EDUCATIONAL INSTITUTIONS

Fall term. Credit three hours. Mrs. Egner.

Designed to provide an introduction to modern psychological and sociological perspectives of personnel administration. Three purposes are paramount: (1) to acquaint the student with a variety of ways of conceiving the problems of personnel administration, (2) to acquaint the student with relevant research, and (3) to develop some facility in the analysis of conceptual schemes and research projects.

ED. 668. SEMINAR IN EDUCATIONAL ADMINISTRATION

Spring term. Credit three hours. Prerequisite: Ed. 561 or Ed. 569 or consent of instructor. Mrs. Egner and staff.

Planned for advanced students in administration. Major emphasis to be placed on the analysis of administrative theory and research from business, public, hospital, and industrial, as well as educational administration.

AGRICULTURAL EDUCATION

Joe P. Bail, Harold R. Cushman, William E. Drake, Frederick K. T. Tom.

Candidates for any advanced degree are expected to have extensive undergraduate preparation in agriculture. Teaching experience is desirable for all candidates and required for admission at the doctoral level.

The graduate program in agricultural education prepares the student for positions in teaching, research, supervision, and administration in public schools, technical schools, and colleges and universities. Graduates may also follow careers in state and federal educational agencies or in overseas educational programs.

Current research projects include the areas of curriculum, occupational work experience, adult education, job analysis and opportunities, learning systems, and teacher education.

ED. 332. METHODS, MATERIALS, AND DIRECTED PRACTICE IN TEACHING AGRICULTURE IN THE SECONDARY SCHOOL

Fall term. Credit nine hours. Staff in agricultural education.

Directed participation in off-campus centers in the specific and related problems of teaching agriculture on the junior and senior high school levels which includes adjustment in the school and community, evaluation of area resources, materials of instruction, and school facilities; organization and development of local courses of study; launching and directing supervised farming programs; planning for and teaching all-day classes; advising Future Farmers chapters; and other problems relating to development of a balanced program for vocational education in agriculture in a local area.

ED. 433. SPECIAL PROBLEMS IN AGRICULTURAL EDUCATION

Fall or spring term. Credit one or two hours. Mr. Bail and staff.

The purpose is to provide students an opportunity to study individually or as a group selected problems in agricultural education to meet the particular needs of the students.

ED. 434. ORGANIZATION AND DIRECTION OF YOUNG FARMER PROGRAMS

Fall term. Credit three hours. Mr. Cushman.

Emphasis will be placed on solving the problems encountered by teachers

of agriculture in such phases of the young farmer program as making arrangements to have a program, determining instructional needs and planning programs of instruction, teaching young farmers in groups, giving individual on-farm instruction, organizing and advising the local young farmer association, and evaluating the young farmer program.

ED. 531. SUPERVISION IN AGRICULTURAL EDUCATION

Fall term. Credit two hours. Given in alternate years. Open to students with experience in teaching agriculture, or by permission. Mr. Bail.

The function of supervision, program planning, and supervisory techniques as applied to state programs in agricultural education.

ED. 532. ADVANCED METHODS AND MATERIALS OF TEACHING AGRICULTURE

Fall term. Credit two or three hours. Mr. Tom.

Consideration is given to an analysis of selected teaching techniques and to the selection, preparation, and use of instructional materials in agriculture.

ED. 533. PLANNING COURSES OF STUDY AND AGRICULTURAL EXPERIENCE PROGRAMS

Spring term. Credit three hours.

Guiding principles, objectives, and sources of information will be developed for planning the courses of study and teaching calendar. Consideration will be given to principles, meanings, and functions of agricultural experience programs and how they are planned, developed, and used as a means of instruction.

ED. 534. EDUCATION FOR LEADERSHIP OF YOUTH AND ADULT GROUPS

Fall term. Credit two hours. Mr. Cushman.

Designed for leaders in the field of agricultural education who are responsible for organizing programs. A consideration of the principles involved in organizing and conducting out-of-school programs for youth and adults.

ED. 535. PLANNING AND CONDUCTING PROGRAMS OF TEACHER PREPARATION IN AGRICULTURE

Fall term. Credit two hours. Offered in alternate years.

Open to persons with teaching experience in agriculture who are preparing for or engaged in the preparation of teachers or in related educational service.

ED. 536. ORGANIZATION AND ADMINISTRATION OF AGRICULTURAL EDUCATION

Spring term. Credit two hours. Given in alternate years. Mr. Cushman.

Designed for teachers, high school principals, teacher trainers, supervisors, and others who are responsible for the administration of agricultural programs or who wish to qualify for this responsibility. Emphasis will be placed on interpreting the vocational acts and on problems of administration at the local and state level.

ED. 539. EVALUATING PROGRAMS OF AGRICULTURAL EDUCATION

Spring term. Credit two hours. Given in alternate years. Open to students with experience in teaching agriculture or by permission. Mr. Drake.

Students will study objectives and evaluative criteria and develop criteria and procedures for evaluation of programs of agricultural education in the secondary schools.

ED. 630. SEMINAR IN AGRICULTURAL EDUCATION

Spring term. Credit one hour. Mr. Tom.

Recommended for Master's degree candidates who have had teaching experience and doctoral candidates with majors and minors in agricultural education. The seminar will be primarily centered in current problems and research in the field not included in other course work.

CURRICULUM AND INSTRUCTION

Harrison A. Geiselmann, Mauritz Johnson, William T. Lowe, Joseph D. Novak, Walter J. Pauk, Miss Isabel J. Peard, Verne N. Rockcastle, Miss Helen L. Wardeberg.

The Master of Arts in Teaching degree is offered for liberal arts graduates with appropriate disciplinary concentrations who desire supervised teaching practice and the related professional studies required for permanent certification as elementary school teachers or teachers of academic subjects at the secondary school level. The Master of Arts degree is intended for experienced teachers who seek advanced study in education and in their teaching fields. Doctoral candidates will find opportunities for research in scholarship, in teacher education, supervision and evaluation of teaching, instructional methodology and media, curriculum theory, and curriculum development in reading, social studies, mathematics, and the humanities. All degree programs include continuing work in academic disciplines in addition to professional study.

ED.E 440A. OBSERVATION AND STUDENT TEACHING

Fall or spring term. Credit six hours. Hours to be arranged. Mr. Lowe, Mrs. Greenberg, Mrs. Ocvirk, Mr. Pfaff and Mr. Teetor.

For students preparing to teach English, languages, mathematics, social studies, or speech in the secondary schools. (Prospective science teachers, see Ed. 429, page 110.) Opportunities to observe the work of experienced teachers and to do directed teaching in a secondary school are provided. Seminars and student teaching conferences arranged with emphasis on discussion of teaching problems. Students should also enroll in the appropriate special methods course which follows.

ED.E 440E. TEACHING ENGLISH IN SECONDARY SCHOOLS

Fall and spring terms. Credit four hours. Hours to be arranged. Miss Tweedie.

Taught jointly by the Department of English and the School of Education. Emphasis on the teaching of reading, writing, and language. Undergraduates accepted for the English-teaching program should register in the term immediately prior to that in which their practice teaching is scheduled; all others should see Miss Peard before registering.

ED. E440L. TEACHING LANGUAGES IN SECONDARY SCHOOLS

Fall or spring term. Credit three hours. Hours to be arranged. Mr. Teetor.

ED. E440M. TEACHING MATHEMATICS IN SECONDARY SCHOOLS

Fall term. Credit three hours. Hours to be arranged. Mrs. Greenberg.

ED. E440S. TEACHING SOCIAL STUDIES IN SECONDARY SCHOOLS

Summer Session only. Credit two or three hours. Mr. Lowe.

ED. 444. SEMINAR IN THE TEACHING OF SECONDARY MATHEMATICS

Spring term. Credit three hours. Mr. Geiselmann.

Useful materials and practical methods for effective teaching of mathematics in the junior and senior high school. Attention will be given to research in mathematics education, and to recent proposals for curriculum revision. Special interests of the students will serve as a guide for the further selection of topics.

ED. E445. TEACHING READING AND STUDY SKILLS IN SECONDARY SCHOOLS

Spring term. Credit two or three hours. Mr. Pauk.

For teachers, administrators, guidance counselors, and supervisors. Pertinent research as well as the psychology and philosophy of developmental reading and study skills will be examined. Teaching methods and sample materials for classroom use will be demonstrated and discussed.

ED. 540 and ED. E540. THE ART OF TEACHING

Fall and spring terms. Credit and hours to be arranged. Students may register only with consent of appropriate supervisor. Students with endowed college majors will register for Ed. E540. Messrs. Geiselmann, Lowe, and M. Johnson; Miss Peard and Miss Wardeberg.

For students enrolled in fifth-year teacher education programs. Students will be assigned to elementary and secondary schools for directed field experiences. Seminars will be scheduled concurrently.

ED. 545. THE CURRICULUM OF AMERICAN SCHOOLS

Fall term. Credit three hours. Limited to graduate students. Mr. Lowe.

A survey of the basic elements involved in making curriculum decisions, and an examination of contemporary curriculum developments in elementary and secondary schools.

ED. 546. TEACHING READING AND LANGUAGE SKILLS

Fall term. Credit three hours. Miss Wardeberg.

Materials and techniques in teaching the language arts in the elementary school; special emphasis on the teaching of reading.

ED. 547. SEMINAR IN ELEMENTARY EDUCATION

Spring term. Credit and hours as arranged. Miss Wardeberg.

A problems seminar, to study current problems and research in this field.

ED. 549. MODERN MATHEMATICS FOR THE ELEMENTARY TEACHER

Fall term. Credit three hours. Mr. Geiselmann.

An introduction to the new topics, materials, and techniques which are reflected in modern mathematics curricula, grades K-6.

ED. 645. SEMINAR IN CURRICULUM THEORY AND RESEARCH

Spring term. Credit three hours. Registration by permission of the instructor. Mr. M. Johnson.

EDUCATIONAL PSYCHOLOGY AND MEASUREMENT

Howard G. Andrus, Marvin D. Glock, Harry Levin, George W. McConkie, Jason Millman, A. Gordon Nelson, Richard E. Ripple.

Educational psychology is a behavioral science. Its concepts and principles comprise the body of knowledge relevant to the improvement of classroom learning. Many disciplines — including anthropology, child development, psychology, and sociology — contribute to educational psychology through their research findings on the nature of growth and development, cognition, motivation, social interaction, and personality. Students who major in this subject may specialize in any of the traditional aspects of psychology as they apply to human behavior or statistics. Research in progress is in the field of human learning and literacy. Previous preparation in professional education or in psychology is not a prerequisite. Any deficiencies must be satisfied during candidacy for the particular degree.

ED. 411. EDUCATIONAL PSYCHOLOGY

Fall or spring term. Credit three hours. Prerequisite: an introductory course in psychology. Designed for students in teaching programs and/or those interested in the educational process. Mr. Glock. (Equivalent to Psychology 103).

Consideration of the outstanding facts and principles of psychology bearing upon classroom problems.

ED. E411H. EDUCATIONAL PSYCHOLOGY

Fall or spring term. Credit three hours. Open only to selected graduate honors students. Permission must be granted by the professor in charge. Time to be arranged. Mr. Ripple and staff.

Through a program of independent study, reading, research activities, and seminars, the students will pursue study of human development, the learning process, motivation, retention and forgetting, transfer, higher mental process, personal-social organization, individual differences, the social psychology of the classroom, technological and other innovations, evaluation and measurement, and research methodology as these apply to the task of managing and organizing learning experiences for students so as to bring about desirable behavioral changes. Work may be arranged to satisfy state certification requirements.

ED. 417. PSYCHOLOGY OF ADOLESCENCE

Spring term. Credit two hours. Prerequisite: a course in general psychology. Mr. McConkie.

A survey of the nature of adolescent growth and development with emphasis on some of the causal factors pertaining to adolescent behavior.

ED. 452. INTERPRETATION OF STATISTICS USED IN EDUCATION

Fall term. Credit one hour. Will be offered in the spring term only to those students concurrently enrolled in Ed. 453. Time to be arranged. Mr. Millman.

A brief introduction to the vocabulary and symbolism used in reporting empirical research in education. Both univariate and multivariate statistical procedures will be covered from an intuitive point of view.

ED. 453. INTRODUCTION TO EDUCATIONAL STATISTICS

Spring term. Credit three hours. Prerequisite: Ed. 452 (may be elected concurrently), or permission of the instructor. Mr. Millman.

A study of common statistical procedures encountered in educational literature and research. The course includes the mathematical bases, compu-

tation, and interpretation of univariate and multivariate descriptive and inferential statistics.

ED. 511. EDUCATIONAL PSYCHOLOGY

Fall term. Credit three hours. Permission of the instructor required. Mr. Glock.

A basic course in educational psychology for graduate students.

ED. 551. EDUCATIONAL MEASUREMENT

Spring term. Credit three hours. Permission of the instructor required. Mr. Glock. Not offered every year.

A study of the construction of achievement tests and the use of aptitude tests, achievement tests, and other measuring instruments in the classification and guidance of pupils and improvement of instruction.

ED. E555. USE AND INTERPRETATION OF TESTS IN GUIDANCE AND PERSONNEL ADMINISTRATION

Fall term. Credit three hours. Mr. Andrus.

Open to students in guidance or personnel administration and to classroom teachers who expect to work with standardized group tests. Deals with the historical development, use, and interpretation of aptitude tests as a basis for guidance and selection in public schools, colleges, and/or industry. Designed to meet the New York State certification for guidance counselors.

ED. 599. METHODS OF EDUCATIONAL INQUIRY

Fall and spring terms. Credit three hours. Prerequisite: one course in statistics or concurrent registration in Ed. 452. T Th. Mr. Millman and staff.

An introduction to the methods that underlie the conduct of significant research in education. Emphasis will be placed upon describing and analyzing such procedures as forming concepts, developing educational products, making observations and measurements, performing experiments, building models and theories, providing explanations, and making predictions. For graduate students in their first year of residence.

ED. 613. SEMINAR IN EDUCATIONAL PSYCHOLOGY

Fall term. Credit three hours. Permission of the instructor required. Time to be arranged. Mr. Glock.

Primarily for doctoral students.

ED. 616. SEMINAR IN EDUCATIONAL RESEARCH

Fall term. Credit three hours. Prerequisites: Ed. 453 and Ed. 599 or permission of the instructor. Time to be arranged. Mr. Millman.

The topic studied is the design of educational experiments. It emphasizes the design of controlled, comparative experiments for the purpose of testing hypotheses, establishing relationships, evaluating innovations, etc. First portion of the course will be devoted to reading and discussing a rather extensive core of the relevant literature. During the second portion, students are expected to present papers in which specific experimental design consideration is viewed in the context of a class of educational experiments.

ED. 617. SEMINAR IN VERBAL LEARNING

Fall term. Credit three hours. Prerequisite: Psychology 306 or equivalent. Hours to be arranged. Mr. McConkie.

A study of current issues in the learning, retention, and transfer of verbal materials.

ED. E618. SEMINAR IN EDUCATIONAL PSYCHOLOGY

Spring term. Credit three hours. Permission must be granted by professor in charge. Hours to be arranged. Mr. Ripple.

Emphasis on theoretical considerations of various areas in educational psychology. Primarily for doctoral students. Not designed for project students earning a Master's degree.

PSYCH. 103. EDUCATIONAL PSYCHOLOGY

Spring term. Credit three hours. Prerequisite: an introductory course in psychology. Mr. Levin. (Equivalent to Ed. 411).

The major facts and principles of psychology bearing on educational practice and theory. Human learning, abilities, and group processes as they influence classroom learning will be stressed. Recent educational advances such as new curricula and programmed learning will be discussed in the light of contemporary psychological theories.

See courses listed in psychology, child development and family relations, anthropology, sociology, and industrial and labor relations for related offerings.

EXTENSION AND ADULT EDUCATION

Robert L. Bruce, Arthur E. Durfee, J. Paul Leagans.

The program leads to both the M.S. and Ph.D. degrees. It is designed to prepare administrators, supervisors, trainers, and other specialists for leadership positions in extension, adult and higher education, community development, and other continuing education agencies. The central objective is to develop creative, professional leaders who can initiate, organize, and effectively execute such programs in different environments, both in the United States and abroad. The curriculum is interdisciplinary. Individual study plans are developed through personal counseling. Theory, technology, principles, and methodology central to the continuing education process are covered in divisional courses and seminars. Concepts gained from these studies form a nucleus around which students integrate study in a number of supporting disciplines.

Faculty and student research focuses on the structure of organizations, the design of programs and the communication process. Graduates typically accept or return to positions of leadership in agencies of continuing education in the United States or in similar agencies in other countries. For further information, write to the chairman of the Division of Continuing Education, 109 Stone Hall.

ED. 512. THE COOPERATIVE EXTENSION SERVICE

Spring term. Credit three hours. Mr. R. Bruce.

An examination of the role and function of cooperative extension as an educational institution.

ED. 523. ADMINISTRATION AND SUPERVISION OF COOPERATIVE EXTENSION PROGRAMS

Fall term. Credit three hours. Mr. R. Bruce.

An application of principles of administration and supervision to the problems of organizing and operating the Cooperative Extension Service.

ED. 524. DESIGNING PROGRAMS OF DEVELOPMENTAL CHANGE

Fall term. Credit three hours. For graduate students interested in the principles and procedures basic to the development and execution of continuing

education programs, including extension, adult, and community development. Mr. Leagans.

A study of the problems, principles, and general procedures commonly involved in developing and carrying out successful educational programs to promote economic and social change.

ED. 525. COMMUNICATING TECHNOLOGY

Spring term. Credit three hours. For graduate students interested in a comprehensive understanding of theory, principles, procedures, and techniques related to the communication of technology as applied to extension, adult, and community development programs. Mr. Leagans.

Analysis of basic elements in the communications process with emphasis on the nature and role of the communicator, audience, message channels, message treatment, and audience response.

ED. 621. SPECIAL STUDIES IN EXTENSION EDUCATION

Fall term. Credit two hours. Lectures, individual time to be arranged. Messrs. Leagans and R. Bruce.

The objective is to provide assistance in thesis preparation to graduate students in extension education. The course consists of three parts: (1) exploration of potential fields and specific delineation of thesis areas; (2) setting up a plan of thesis organization including establishment of objectives or hypotheses, preparation of questionnaires or other research instruments, collection, analysis, and interpretation of data in line with objectives; and (3) preparation of the thesis, its writing, editing, revising, and styling.

ED. 626. SEMINAR: COMPARATIVE EXTENSION EDUCATION SYSTEMS

Fall term. Credit two hours. Mr. Leagans.

A comparative analysis of the objectives, organization, procedures, achievements, and problems of selected extension education and community development agencies and programs in different circumstances of economic, social, and political development and in different agricultural resource environments. Country programs for major consideration are selected in line with the interests of seminar members.

ED. 627. SEMINAR: IMPLEMENTING EXTENSION AND COMMUNITY DEVELOPMENT PROGRAMS IN DEVELOPING COUNTRIES

Spring term. Credit two hours. Open to advanced students with experience in rural development programs by permission of the instructor. Mr. Leagans.

Analysis of major problems of implementing programs for economic and social change in non-Western cultures. Key problems including administrative organization and policy, selection and training of personnel, setting objectives and goals, financing programs, communication, and evaluation will be considered along with others suggested by seminar members.

ED. 628. SEMINAR: CURRENT PROBLEMS AND ISSUES IN EXTENSION EDUCATION

Spring term. Credit two hours. Open by permission of instructor to graduate students in extension education or other fields with special relevance to the seminar topic. Mr. R. Bruce.

A major area of concern to extension education will be selected for intensive study by participating students and faculty.

GUIDANCE AND STUDENT PERSONNEL ADMINISTRATION

Howard G. Andrus, Stanley W. Davis, Stanley R. Levy, A. Gordon Nelson.

A major in this subject area is appropriate for students who wish to prepare for positions in counseling, student personnel administration in higher education, and counselor education. A candidate who intends to become a public school counselor must include in his program the courses specified for certification in the state where he expects to work. A doctoral candidate is required to complete one minor in some branch of psychology, and a second minor chosen in consultation with the chairman of his Special Committee.

ED. E580. STUDENT CULTURE IN THE AMERICAN COLLEGE

Spring term. Credit three hours. Prerequisite: consent of the instructor. Mr. Levy.

Study of the student culture in the American college with emphasis on current research.

ED. E581. STUDENT PERSONNEL ADMINISTRATION

Fall term. Credit three hours. Prerequisite: consent of the instructor. Mr. Levy.

The functions and organization of student personnel administration in higher education with emphasis on the historical and philosophical development of the area.

ED. 582. EDUCATIONAL AND VOCATIONAL GUIDANCE

Fall term. Credit two hours. For graduate students only. Mr. Nelson.

Principles and practices of educational and vocational guidance. Historical and theoretical background of the guidance movement; educational, vocational, and community information needed; the study of the individual; group methods; counseling; placement and follow-up; and the organization, administration, and appraisal of guidance programs.

ED. 583. COUNSELING

Spring term. Credit two hours. For graduate students only. Prerequisites: Ed. E555 and Ed. 582 or their equivalents. Mr. Nelson.

Principles and techniques of counseling with individuals concerning various types of educational, vocational, and social adjustment problems. Case studies.

ED. 584. GROUP TECHNIQUES IN GUIDANCE

Spring term. Credit two hours. Prerequisite: permission of the instructor. Mr. Nelson.

Methods and materials for presenting educational and occupational information to students. Theory and practice of group guidance, and counseling in a group setting.

ED. 585. OCCUPATIONAL AND EDUCATIONAL INFORMATION

Fall term. Credit four hours. Prerequisite: permission of the instructor. Mr. Nelson.

Survey and appraisal of occupations and training opportunities; study of sources of educational and vocational information; job analysis; vocational trends. Field trips to places of employment.

ED. E602. FIELD LABORATORY IN STUDENT PERSONNEL ADMINISTRATION

Either term. Credit and hours to be arranged. Prerequisite: consent of instructor. Mr. Levy.

Directed field project in student personnel administration.

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ED. E681. SEMINAR IN STUDENT PERSONNEL ADMINISTRATION

Spring term. Prerequisites: Ed. E580 and Ed. E581. Credit two hours. Mr. Davis.

An analysis of problems in student personnel administration.

The following courses are not ordinarily offered on campus during the academic year, but they *are* offered in alternate Summer Sessions, along with most of the courses listed above.

ED. 586. ORGANIZATION AND ADMINISTRATION OF GUIDANCE PROGRAMS. Credit two hours.

ED. 587. PRACTICUM IN MEASUREMENT AND APPRAISAL FOR COUNSELORS. Credit two hours.

ED. 588. CASE STUDIES IN COUNSELING. Credit two hours.

HISTORY, PHILOSOPHY, AND SOCIOLOGY OF EDUCATION

Robert H. Ennis, D. Bob Gowin, Miss Isabel J. Peard, Frederick H. Stutz, Wayne E. Thompson.

All doctoral students will be expected to have or develop an acquaintance with the following four branches of this subject and to choose one for an area of specialization: history of education, philosophy of education, educational sociology, and comparative education. A candidate who chooses comparative education will also be expected to become a specialist in one of the other three branches.

Ordinarily about half of a candidate's program will include study in one or more of the following disciplines: history, philosophy, sociology, government, and economics. At least one minor for the doctorate will be outside the Field of Education.

Areas of faculty and student study and research interests include structure of subject matter, analysis of educational concepts, fundamental assumptions in educational research, critical thinking, relation of philosophy and education, curriculum, logic in teaching, nature of theory in education, role of philosophy in teacher education, school-community relations, social roles of teachers, student climate, educational leadership, and educational aims.

ED. 470. SOCIAL AND PHILOSOPHICAL FOUNDATIONS OF EDUCATION

Either term. Credit three hours. Registration in morning sections limited to 50 students; afternoon sections, 25 students. Fall term, Messrs. Ennis and Gowin. Spring term, Miss Peard and Mr. Stutz.

A study of the persistent problems of education in a democracy.

ED. 471. LOGIC IN TEACHING

Spring term. Credit three hours. Mr. Ennis.

A consideration of definition, explanation, proof, problem solving, and the structure of subject matter as they bear upon the work of the classroom teacher.

ED. E472. PHILOSOPHERS ON EDUCATION

Fall term. Credit three hours. Admission by consent only. Miss Peard.

Selected writings by such philosophers as Plato, Descartes, Rousseau, and Dewey will be examined in their own right and for the light they throw on the persistent problems in education.

ED. E473. CONTEMPORARY PHILOSOPHY OF EDUCATION

Spring term. Credit three hours. Mr. Gowin.

The ideas of pragmatists, humanists, analysts, and existentialists will be examined in relation to the bearing of the ideas on educational thought and practice.

ED. E476. THE URBAN SCHOOL

Spring term. Credit three hours. Mr. Lowe.

An analysis of the problems of teaching and learning in the urban elementary and secondary school. The social milieu of the central city school will be examined briefly; then, some specific organizational, curricular, and instructional ideas aimed at improving the quality of education in this environment will be studied in detail.

ED. 574. HISTORY OF EDUCATION IN THE MODERN PERIOD

Spring term. Credit three hours. For graduate students. Mr. Stutz.

An examination of educational thought and practice from the seventeenth century to the present in the setting of general developments in Western Europe and the United States. Principal attention will be given to the educational purposes and systems of France, Germany, the United Kingdom, the USSR, and the United States. A special paper will be required.

ED. 578. COMPARATIVE EDUCATION

Spring term. Credit three hours.

A comparative treatment of several national systems of education from a historical perspective.

ED. 598. EDUCATION AS A FIELD FOR INQUIRY

Fall term. Credit three hours. Mr. Stutz.

Designed primarily for students without previous training or experience in the field of education, this course is intended to provide insight into the nature and content of the field to which their research efforts will be directed. The course will cover the structure of the educational enterprise, its history, its objectives and the ways it seeks to achieve them, its main concerns, emphases, and sources of strain.

ED. 671. SEMINAR: ANALYSIS OF EDUCATIONAL CONCEPTS

Spring term. Credit three hours. Admission by consent. W 2:30-4:30. Mr. Ennis.

Topic for 1968-69: Authority.

ED. E672. SEMINAR IN EDUCATIONAL CLASSICS

Spring term. Credit three hours. Admission by consent. Miss Peard.

Topic for 1968-69 to be announced.

ED. E673. SEMINAR IN JOHN DEWEY'S PHILOSOPHY OF EDUCATION

Fall term. Credit three hours. For graduate students. Consent of instructor required. Prerequisite: prior course in philosophy or philosophy of education. Mr. Gowin.

Dewey's conceptions of the nature of experience, knowledge, value, and metaphysics will be analyzed, as well as his method of philosophizing. Students will be expected to read widely in Dewey's writings and in the writings of his critics and disciples. Primary aim is a mature, critical understanding and appraisal of Dewey's philosophy, especially as it centers upon education.

ED. 674. SEMINAR IN HISTORY OF EDUCATION

Spring term. Credit three hours. Admission by consent. Mr. Stutz.

Topic for 1968-69 to be announced.

ED. 699. CONCEPTUAL PROBLEMS IN EDUCATIONAL INQUIRY

Fall term. Credit three hours. Primarily for doctoral candidates in their second year of residence. Prerequisite: Ed. 599 or equivalent, or permission of instructor. Mr. Ennis.

An examination of such concepts as causation, operationism, validity, reliability, hypothetical construct, generalization, explanation, probability, and hypothetico-deductive method.

SOC. 619. SEMINAR: THEORY AND RESEARCH

Fall term. Credit four hours. Mr. Thompson.

Critical examination of topics in the sociology of education.

HOME ECONOMICS EDUCATION

Miss Sara E. Blackwell, Miss Jean Cooper, Miss Marion Minot, Mrs. Helen Y. Nelson, Miss Kathleen Rhodes.

Candidates are expected to have an undergraduate major in home economics. Previous courses in education as well as teaching experience in formal or informal situations are recommended.

Students' programs emphasize concepts and methods of inquiry of those social sciences which have relevance for dealing with problems of curriculum planning, teaching and learning, and evaluation. Concentration in one of these problem areas or in a related social science is expected of doctoral candidates.

Specialization is possible in adult and informal education, teacher education, administration, research, and, for selected students, international home economics.

Current research areas include: evaluation of cognitive and effective objectives of home economics; characteristics of adolescents related to vocational planning; developmental and experimental studies in occupational home economics; and studies in teacher education in developing countries.

H.E. ED. 500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

Fall and spring terms. Credit and hours to be arranged. Department faculty.

For students recommended by their chairmen and approved by the instructor in charge for independent, advanced work.

H.E. ED. 537. ADULT EDUCATION

Fall term. Credit two or three hours.

An introductory course planned for teachers, administrators, directors of adult education, extension agents, parent educators, and others. Focused on educational needs, program planning suited to adult learners, choosing

teaching procedures and materials for adults, promotion of programs, philosophy and evaluation in adult education. A wide variety of adult education activities in the Ithaca area provides opportunity for students to observe the application of principles to local programs. Students taking the third credit either observe or assist in teaching adults in local programs or choose some other suitable program.

H.E. ED. 549. CURRICULUM PLANNING IN HOME ECONOMICS

Spring term. Credit three hours. For high school and college teachers, administrators, and extension personnel. Miss Rhodes.

Attention is given to the social-cultural foundations of the home economics curriculum, social-psychological needs of learners, the influence of educational philosophy on curriculum planning, and curriculum planning for different age and ability levels.

Opportunity is given for students to relate curriculum principles to individual situations.

H.E. ED. 555. CROSS-CULTURAL ASPECTS OF HOME ECONOMICS EDUCATION

Spring term. Credit three hours. Open to students who have had professional experience in countries other than the U.S.A. or permission of the instructor. Prerequisite: an appropriate course in sociology or comparative education. Miss Rhodes.

A study of the economic, social, and political factors affecting education and the development of home economics programs in differing cultures. Students will have opportunity to analyze home economics programs in countries other than the U.S.A. and to evaluate methods of approach appropriate to various cultures.

H.E. ED. 559. EVALUATION

Fall term. Credit three hours. For high school and college teachers, administrators, extension agents, and educational research workers. Students without experience in any of these professional positions are admitted by permission of the instructor. Miss Rhodes.

Basic principles of evaluation studies in relation to specific methods of appraising educational programs or individual achievement. Opportunities will be given for constructing and using evaluation instruments.

H.E. ED. 580. SEMINAR IN HOME ECONOMICS EDUCATION

Fall and spring terms. Credit one hour. Department faculty.

An informal seminar planned for majors and minors in home economics education and for others who are interested. One major aspect of education will be considered each term. May be repeated for credit with permission of instructor.

H.E. ED. 590. HOME ECONOMICS IN HIGHER EDUCATION

Fall term. Credit three hours. Miss Rhodes.

For students interested in preparing to teach at college level. Opportunities are provided for observation and analysis of college teaching in various aspects of home economics: the objectives of home economics in higher education; characteristics of college students and factors affecting student learning; principles influencing the selection of teaching procedures and materials in higher education; evaluation of college level programs and the college teacher of home economics.

H.E. ED. 599. MASTER'S THESIS AND RESEARCH

Fall and spring terms. Credit and hours to be arranged. Registration with permission of the chairman of the graduate committee and the instructor. Misses Blackwell and Rhodes, Mrs. Nelson.

H.E. ED. 660. SEMINAR IN EVALUATION

Spring term. Credit two hours. Prerequisites: H.E. Ed. 559 and Ed. 453 or equivalent. Miss Blackwell.

Opportunity for intensive study of the literature concerning educational evaluation, for refinement of appraisal techniques, and for analysis and interpretation of data from current research.

H.E. ED. 661-662. THE TEACHER EDUCATOR IN HOME ECONOMICS

For graduate students preparing for teacher education positions involving supervision of student teachers. Permission of the instructors is required. Previous experience in teaching homemaking at the secondary level is required for H.E.Ed. 662.

661. Fall. Credit three hours. Mrs. Nelson.

Opportunity is provided for students to develop understanding of teacher education practices by observing and participating in H.E. Ed. 440. Participation involves teaching one or two lessons, and individual work with students. Additional experiences include observation of student teachers and of supervisory conferences in student teaching centers.

662. Spring. Credit four hours. Misses Cooper and Minot.

Observation and participation first half of the semester, and weekly half-day or full-day field trips for last half of the semester. Seminar is concerned with basic principles of supervision and their application to the preservice education of home economics teachers. Opportunity is provided for observation and participation in H.E. Ed. 441 and 442, including some teaching in the courses and the supervision of a student teacher.

H.E. ED. 663. INTERNSHIP AND FIELD WORK IN TEACHER EDUCATION

Fall term. Credit two hours. Misses Cooper and Minot, Mrs. Nelson.

First eight weeks of semester: supervision of one student teacher. Second eight weeks of semester: supervision of two student teachers. Conference with college supervisor one hour each week and conferences as needed with co-operating teachers in the public schools. Provision will be made for a follow-up visit to a first-year teacher.

H.E. ED. 670. ADMINISTRATION AND SUPERVISION PRACTICUM

Spring term. Credit two hours. Prerequisite or parallel, one of the following: Ed. 561, H.E. Ed. 590, H.E. Ed. 662, or permission of the instructor. Miss Rhodes.

Opportunity for analysis of principles of supervision and administration in educational institutions through directed observation of the organization of home economics programs at state or city level and in higher education. Approximate cost of field trips, \$25.

H.E. ED. 699. DOCTORAL THESIS AND RESEARCH

Fall and spring terms. Credit and hours to be arranged. Registration with permission of the chairman of the graduate committee and the instructor. Misses Blackwell, Cooper, Minot, and Rhodes, Mrs. Nelson.

SCIENCE, NATURE, AND CONSERVATION EDUCATION

Richard B. Fischer, Joseph D. Novak, Verne N. Rockcastle.

Persons with an interest in science, nature study, and conservation of natural resources will find programs arranged to meet requirements for Master's or doctoral degrees in either of two areas:

(1) Science teaching, science supervision, science curriculum development, teacher preparation and research at elementary, secondary, and college levels. Programs may meet requirements for permanent certificates or broaden and deepen preparation in the sciences. The science departments offer the subject matter preparation, while the Department of Education offers many helpful professional courses and seminars;

(2) Conservation education and the scientific study of nature leading to positions in conservation work in agencies dedicated to the development of public understanding and enjoyment of natural resources. There are opportunities for free-lance work as writers, illustrators, and lecturers. Often included are science content courses, natural history literature and writing, journalism, fine arts, scientific illustrating, speech, and other communication skills.

ED. 402. NATURAL HISTORY LITERATURE

Fall term. Credit two hours. Open to graduate students interested in nature, science, and conservation education. Mr. Fischer.

A survey of writings in the nature, science, and conservation education fields, with special attention to outstanding writers and their works, designed for teaching and for leisure time reading.

ED. 403. NATURAL HISTORY WRITING

Spring term. Credit two hours. Open to graduate students interested in nature, science, and conservation education. Mr. Fischer.

Designed to improve natural history, science, and conservation writing. Subject matter, sources of information, types of articles, use of illustrations, and outlets for students' articles are covered.

ED. 407. THE TEACHING OF ELEMENTARY SCHOOL SCIENCE

Fall term. Credit three hours. Open to graduate students by permission. Mr. Rockcastle.

The content and methods of elementary-school science and nature study, with field work and laboratory experience useful in classroom and camp. Designed particularly for those who are preparing to teach or supervise elementary science or nature study.

ED. 409. OUR PHYSICAL ENVIRONMENT

Spring term. Credit three hours. Open to graduate students by permission. For those primarily interested in public school teaching. Mr. Rockcastle.

A study of the commonplace events and materials in our physical environment, and their effectiveness in demonstrating basic scientific principles. Frequent field trips and first-hand examination will be used in studying air, water, soil, light, and sound, as well as some elementary mechanical and electrical devices. Emphasis will be placed on the physical environment as an aid to teaching the physical sciences in the public secondary schools.

ED. 424-425. FIELD NATURAL HISTORY

Fall or spring term. Credit three hours. Limited to twenty students a section. Friday section primarily for those experienced in field biology. Mr. Fischer.

Devoted to studies of local plants and animals, their ecology and their relations to humans. Applications to teaching science and conservation are emphasized. May be taken either term or both terms.

ED. 428. METHODS OF TEACHING SCIENCE IN SECONDARY SCHOOLS

Spring term. Credit three hours. Prerequisite: Ed. 411 or the equivalent, or concurrent registration. For graduate students without teaching experience. Staff.

A consideration of methods and materials useful in teaching science in secondary schools. Observation of the work of experienced teachers constitutes an important part of the course.

ED. 429. PRACTICE IN TEACHING SCIENCE IN SECONDARY SCHOOLS

Fall or spring term. Credit six or twelve hours. Prerequisites: Ed. 507 or Ed. 428 and permission of the instructor. For seniors in fall term and graduate students in spring term. Hours to be arranged.

Supervised practice in teaching science in secondary schools, with frequent conferences on teaching plans and problems.

ED. 505. THE TEACHING OF CONSERVATION

Fall term. Credit two hours. Mr. Fischer.

Consideration of the principles, materials, and methods of conservation education useful to teachers and others engaged in teaching wise use of the resources of the nation.

ED. 507. THE TEACHING OF SCIENCE

Spring term. Credit three hours. For graduate students with teaching experience and others by permission only. Staff.

A consideration of research in selection and organization of subject matter, and of methods of teaching sciences, with applications of research findings to the improvement of instruction.

ED. 509. THE DEVELOPMENT OF PROGRAMS FOR SCIENCE EDUCATION

Fall term. Credit two hours. For graduate students. Mr. Novak.

Studies of program design and learning in the sciences, and their influence on science course content and methods of teaching.

ED. 606. RESEARCH IN NATURE STUDY, SCIENCE, AND CONSERVATION EDUCATION

Fall and/or spring term. Credit one hour. Required of graduate students who major or minor in science education. Mr. Novak and assistants.

A seminar dealing with current research and special problems.

GENERAL COURSES

ED. 499. INFORMAL STUDY IN EDUCATION

Maximum credit, three hours each term. Members of the staff.

AND

ED. E499S. INFORMAL STUDY IN EDUCATION

Maximum credit, three hours each term. For students with majors in the endowed colleges. Members of the staff.

This privilege is granted to a qualified junior, senior, or graduate student when approved by an adviser from the Education staff who is personally responsible for the study. Two purposes are sanctioned: (1) to engage in a study of a problem or topic not covered in a regular course; or (2) to undertake tutorial or Honors study of an independent nature in the area of the student's research interests. The program is not designed for study supplementary to a regular course for the purpose of increasing the content and credit allocation of the course.

ED. 500. SPECIAL STUDIES

Credit as arranged. Limited to graduate students working on theses or other research projects. Each registration must be approved by a staff member who will assume responsibility for the work. Members of the staff.

ED. E500S. SPECIAL STUDIES

Credit as arranged. Limited to graduate students with majors in the endowed divisions working on theses or other research projects. Each registration must be approved by a staff member who will assume responsibility for the work. Members of the staff.

ED. E594. COLLEGE TEACHING

Spring term. Without credit. Members of the University staff.

Designed for those who plan to teach in colleges and universities. Concepts and methods of teaching, organization of subject matter, motivation, learning, testing, grading, and similar problems are treated.

ED. 600. INTERNSHIP IN EDUCATION

Fall and spring terms. Credit two to six hours as arranged. Members of the faculty.

Opportunity for apprentice or similar practical experience on the graduate level in administration, agricultural education, guidance, personnel administration, supervision, and other types of professional service in education.

H.E. ED. 500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

See page 106.

H.E. ED. 599. THESIS AND RESEARCH

See page 108.

ED. 698. PRACTICUM IN EDUCATIONAL RESEARCH

Fall and spring terms. Three to six hours credit per term. Mr. Ennis and other members of the staff.

Participation in a research project under the direction of the principal investigator of said project. Level of responsibility will increase with the experience and capability of the candidate, the eventual goal being his assumption of responsibility for a portion of the research.

INTERDEPARTMENTAL COURSES

ILR 323. TECHNIQUES AND THEORIES OF TRAINING IN ORGANIZATIONS

Spring term. Credit three hours. Mr. Foltman or Mr. Frank.

Deals with the methods used, formally and informally, by organizations for training personnel at all levels. These methods will be compared with relevant

psychological formulations of the problems of learning. The place of practice, understanding, and motivation in the acquisition of motor and other skills; the use of the case and incident method; learning techniques in a group setting (discussion and role playing); learning during performance appraisals; learning as a result of identification. Various teaching methods will be practiced.

ILR 423. DESIGN AND ADMINISTRATION OF TRAINING PROGRAMS

Fall term. Credit three hours. Mr. Foltman or Mr. Mesics.

An analysis and exploration of the training and retraining function as applied in business, government, and industrial organizations. Consideration is given to the conceptual framework in which learning activities are developed at the workplace at all levels. Included are various teaching methods such as vestibule schools, on-the-job training, conference discussion, role playing, programed instruction, sensitivity training, and the utilization of audio-visual materials. Programs are studied dealing with the development of manipulative, supervisory, technical, and administrative skills. Particular emphasis is placed on the training needs of employees in a technologically changing industrial environment.

ILR 524. PUBLIC POLICY AND DEVELOPMENT OF HUMAN RESOURCES

Fall term. Credit three hours. Mr. Foltman.

Analysis of the need for development of human resources, trends in work force requirements and implications for public policy, the role of government and of educational institutions in providing development programs, and the effectiveness of such programs. Attention to the rationale, organization, and administration of specific programs, such as apprenticeship, vocational and technical schools, technical institutes, university programs for development of technical, scientific, and managerial skills, and the foreign technical assistance program. Implications and problems of public support for the development of human resources.

ILR 527. MANAGEMENT AND LEADERSHIP DEVELOPMENT

Fall term. Credit three hours. Mr. Campbell or Mr. Foltman.

Study of the factors affecting the growth and development of managers and leaders in industrial and other organizations. Consideration is given to the organizational environment; formal and informal developmental programs; leadership theory; and individual attitudes and beliefs. Special emphasis is given to analysis of specific case studies of actual practice.

ILR 627. CURRENT ISSUES AND RESEARCH IN HUMAN RESOURCES DEVELOPMENT

Fall and spring terms. Credit three hours. Fall term: Mr. Foltman or Mr. Gruenfeld. Spring term: Mr. Foltman or Mr. Gruenfeld.

A graduate seminar centering on selected issues and relevant research involved in the development of managerial and work force skills (particular emphasis for the seminar to be determined with the seminar group). Seminar papers and class discussions might concentrate on such topics as management development, impact of technological change on training programs, development of scientific and professional personnel, or labor union education.

INTERDEPT. 404. COMPUTER METHODS IN BEHAVIORAL SCIENCES

Spring term. Credit four hours. Prerequisite: an intermediate statistics course (may be taken concurrently). Mr. Rudan.

Importance of digital computers in behavioral research. Issues that arise in design of research instruments. The use of unit record equipment in data analysis and reduction. Programming with the FORTRAN language. Outline of programs available for analysis and reduction of data. Information on the theory and use of such programs.

SOC. 441. STRUCTURE AND FUNCTIONING OF AMERICAN SOCIETY - I

SOC. 442. STRUCTURE AND FUNCTIONING OF AMERICAN SOCIETY - II

GOVERNMENT

Faculty: Benedict R. Anderson, Douglas E. Ashford, Walter F. Berns, Allan D. Bloom, Herbert W. Briggs, Arch T. Dotson, Mario Einaudi, Andrew Hacker, Richard I. Hofferbert, George McT. Kahin, Eldon Kenworthy, John W. Lewis, David Mazingo, Steven Muller, Clinton Rossiter, Arthur Rovine, Myron Rush, Allan P. Sindler.

Field Representative: Myron Rush, 301 West Sibley Hall.

ADMISSION REQUIREMENTS. All applicants for admission to graduate study in the Field of Government must submit the scores of the Graduate Record Examination Aptitude and Advanced Tests with their other credentials. Applicants for financial assistance should take these tests before January 15.

LANGUAGE REQUIREMENTS. A candidate for the Ph.D. degree in Government is expected to demonstrate a high level of proficiency in at least one foreign language chosen from French, German, or Russian, or a substitute approved by the Special Committee. The Special Committee may, for reasons having to do with a student's program, require more than one language. At the discretion of his Special Committee, a candidate for the M.A. degree may be required to demonstrate reading ability in one foreign language.

FIELD REQUIREMENTS. A course of studies leading to a higher degree in the Field of Government seeks to insure for each candidate a broad knowledge of the Field, as well as a specialized competence which will enable him to pursue with distinction a professional or scholarly career in political science.

MAJOR AND MINOR SUBJECTS

In regard to minor subjects, see the first paragraph of the description below.

Group I
American Government
Group II
Political Theory

Group III
Comparative Government
Group IV
International Law and Relations

In contemporary political science, many of the traditional classifications are changing. The Field of Government, therefore, does not limit minors to a specified number of subjects. For example, within the major subject, American government, a candidate for a higher degree may choose to minor in American constitutional law, the American political process, or some other substantial aspect of this subject. Within political theory, a candidate may wish to minor in modern or ancient and medieval theory. Within comparative

government, a candidate may wish to minor in Western or non-Western political systems. Within international law and relations, a candidate may wish to minor in international law only, or the relations of groups of nations whose goals or systems of government make them a reasonable focus for graduate study. Graduate students are encouraged to select, with the approval of their Special Committee, minor subjects which are adapted to their scholarly goals and also represent significant portions of the Field.

A candidate for the Ph.D. degree must offer on the comprehensive Admission to Candidacy Examination one major and at least two minor subjects. No more than one minor may be chosen from a single group of subjects; one of the minors may be outside the Field of Government. A candidate for the Master's degree must offer one major and at least one minor; the minor or minors must belong to a different group from the major or be outside the Field of Government.

All candidates are expected to secure a broad preparation in the Field. The Special Committee and the Field Representative may, at the time of the Field Review or the qualifying examination, recommend particular courses or seminars outside the major or minor subjects which must be completed satisfactorily. The Committee and the Field Representative will, in place of such courses or seminars, administer an examination to assess the candidate's preparation.

Cornell offers a number of programs in foreign area studies coordinated by its Center for International Studies, i.e., the China Program, the Latin American Program, the South Asia Program, and the Southeast Asia Program. There are, in addition to these area programs, Faculty Committees on African, Near Eastern, and Soviet Studies. A student wishing to minor in one of these specialized areas may obtain additional information from the following: Professor William H. Friedland, Committee on African Studies; Professor Nicholas Bodman, China Program; Professor Tom E. Davis, Latin American Program; Professor Gerald B. Kelley, South Asia Program; Professor George McT. Kahin, Southeast Asia Program; Professor George Gibian, Committee on Soviet Studies (see pages 28-37).

FIELD REVIEW. Within two weeks after the beginning of residence, the Field Representative, with the assistance of an *ad hoc* committee from the faculty of the Field or from other Fields where indicated, will conduct an initial review of the candidate's preparation and tentative plan of study.

QUALIFYING EXAMINATION. Each candidate for the Ph.D. degree will take a qualifying examination during the last month of his second term of graduate study. The examination will focus on the course and seminar work done during the year. The Special Committee will decide whether to have a written as well as an oral examination.

Each candidate will be placed in one of three categories on the basis of his performance on the qualifying examination. A candidate placed in category A will be confirmed in the Ph.D. program. Upon satisfactory completion of his Admission to Candidacy Examination, he may petition the Graduate School to award him a Master's degree. A student placed in category B will be awarded a Master's degree upon satisfactory completion of the requirements for that degree. A student placed in category C will not be permitted to reregister as a student in the Field of Government.

ADMISSION TO CANDIDACY EXAMINATION. Each candidate will present his major and minor subjects for an Admission to Candidacy Examination at a time to be fixed by his Special Committee in accordance with the regulations of the Graduate School. This comprehensive examination must be

passed before the candidate begins full-time work on a thesis or dissertation, and before the completion of six terms of residence, unless the Field sets an earlier or later date because of special circumstances. The examination will be written and oral.

FINAL EXAMINATION. Each candidate will be examined orally on his thesis or dissertation.

Research and Study Opportunities

As noted above, the University has a series of programs in foreign area studies, and students minoring in such areas have every opportunity to participate in the numerous research projects being carried on both here and abroad. A number of the faculty in the Field of Government are members of these programs and can act as advisers for such research.

Faculty Specializations

Within the four major subject groupings listed earlier, the fields and specializations of the faculty present a broad range of choice and allow for a diversity of interests.

In the area of *American Government*, Professor Berns specializes in constitutional law and jurisprudence, Professor Hacker in political sociology; Professor Hofferbert is interested in comparative American state government, utilizing quantitative methods of analysis, and in the general problem of comparing political systems. Professor Rossiter's field is the political and constitutional history of the United States; Professor Sindler specializes in American political parties and interest groups, and Professor Dotson in public administration.

In the area of *Political Theory*, Professor Bloom specializes in the classical tradition, Professor Rossiter in American political thought, and Professor Einaudi in modern political philosophy.

In the areas of *Comparative Government* and *International Law and Relations*, Professor Einaudi's field of interest is Western Europe; Professor Muller specializes in the political systems of Great Britain and Germany, and Professor Rush in Soviet politics and foreign policy. Professor Kahin specializes in the international relations of Asia and in the government and politics of Southeast Asia; Professor Anderson, as well, is interested in Southeast Asian government and politics. Professor Lewis' main area of interest is China, as is Professor Mzingo's. Professor Kenworthy's specialty is Latin American politics, while Professor Ashford's is the government of North African countries and the politics of modernization. Professor Dotson, as well, specializes in the politics of modernization. Professor Briggs is a specialist in international law; and Professor Rovine's field of specialization is international organization.

Special Departmental Awards

WALTER S. CARPENTER, JR. FELLOWSHIP (Stipend plus tuition and fees). Graduate students majoring in comparative government under the direction of the Walter S. Carpenter Professor of International and Comparative Politics are eligible.

NEWTON C. FARR FELLOWSHIP (Stipend plus tuition and fees). Graduate students majoring in American government under the direction of the John L. Senior Professor of American Institutions are eligible.

JOHN L. SENIOR FELLOWSHIP (Stipend plus tuition and fees). Graduate students majoring in American government under the direction of the John L. Senior Professor of American Institutions are eligible.

In addition to these special departmental awards, graduate students in the Field of Government are eligible for support from the McVoy fund. Awards consist of amounts up to tuition and fees with, in special cases, some stipend added.

Courses*

SEMINARS

511. AMERICAN POLITICAL PARTIES AND ELECTIONS

Fall term. Mr. Sindler.

Selected analytical problems in American parties and voter behavior.

516. CONSTITUTIONAL LAW AND JURISPRUDENCE

Spring term. Mr. Berns.

523. THE POLITICS OF GOVERNMENT PLANNING

Fall term.

531. METHODS OF EMPIRICAL POLITICAL INQUIRY

Fall term. Mr. Hofferbert.

532. AMERICAN STATE AND LOCAL POLITICS

Spring term. Mr. Hofferbert.

534. THE POLITICS OF THE SOVIET UNION

Spring term. Mr. Rush.

537. POLITICAL DEVELOPMENT AND SOCIAL CHANGE

Fall term. Mr. Ashford.

An examination of the efforts to extend the theory of comparative politics to include the less developed countries. The concepts of political culture, political mobilization, and institutional break-down will be studied as they relate to rapid social and economic change.

538. ADMINISTRATION AND DEVELOPMENT

Spring term. Mr. Dotson.

540. LATIN AMERICAN POLITICS

Spring term. Mr. Kenworthy.

542. COMPARATIVE GOVERNMENT

Spring term. Mr. Einaudi.

* Based on an estimate of seminars and courses which will be given.

543-544. COMPARATIVE GOVERNMENT

Throughout the year. Mr. Muller.

545. IDEOLOGY AND POLITICAL CHANGE

Spring term. Mr. Ashford.

547. THE POLITICS OF CHINA

Spring term. Mr. Lewis.

555-556. POLITICAL THEORY

Throughout the year. Mr. Bloom.

562. POLITICAL THEORY

Spring term. Mr. Einaudi.

572. INTERNATIONAL RELATIONS

Fall term. Mr. Lewis.

The conceptual problems in the study of state relations, with emphasis on aspects of the formation of security policy.

576. INTERNATIONAL LAW AND INTERNATIONAL ORGANIZATION

Spring term. Mr. Briggs.

577. INTERNATIONAL RELATIONS OF ASIA

Fall term. Mr. Kahin.

Special focus to be announced.

644. POLITICAL PROBLEMS OF SOUTHEAST ASIA

Spring term. Mr. Kahin.

COURSES OF SPECIAL INTEREST TO
GRADUATE STUDENTS

313. AMERICAN CONSTITUTIONAL LAW

Fall term. Mr. Berns.

A study of the law of the Constitution as this has been expounded by the Supreme Court. Emphasis will be placed on the various understandings of freedom that have inspired, or given rise to, that law. The course will be conducted primarily through class discussion of assigned cases.

325. AMERICAN STATE POLITICS

Fall term. Mr. Hofferbert.

A study of the relationships between the social setting, patterns of partisanship, and governmental processes in the American states.

326. POLITICS AND POLICY MAKING IN THE AMERICAN
COMMUNITY

Spring term. Mr. Hofferbert.

An analysis of the processes of political decision making in communities of varying size and social composition. Special attention is given to the relationships between formal governmental institutions and informal structures of political influence.

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333. GOVERNMENT AND POLITICS OF THE SOVIET UNION

Fall term. Mr. Rush.

An introduction to the Soviet political system.

334. FOREIGN POLICY OF THE U.S.S.R.

Spring term. Mr. Rush.

A survey from the Revolution to the present.

338. POLITICS AND MODERNIZATION

Fall term. Mr. Dotson.

A comparative study of political development and social change.

341. CONSTITUTIONAL GOVERNMENT IN EUROPE

Fall term. Mr. Einaudi.

351. DEVELOPMENT OF MODERN POLITICAL THOUGHT

Fall term. Mr. Einaudi.

The development of political thought from the sixteenth to the nineteenth century. The course is built around certain essential concepts of political theory: the nature of law, the state and sovereignty, individual rights and the community. Machiavelli, Hobbes, the Enlightenment, Rousseau, Hegel, and Marx will receive particular attention.

355. AMERICAN POLITICAL THOUGHT

Fall term. Mr. Rossiter.

383. INTERNATIONAL LAW AND WAR

Fall term. Mr. Rovine.

464. BASIC PROBLEMS IN POLITICAL THEORY

Spring term. Mr. Berns.

Textual analysis of the writings of selected modern political philosophers.

471-472. INTERNATIONAL LAW

Throughout the year. Mr. Briggs.

A systematic study of the nature, development, and judicial application of international law. Attention will be given to the role of law in the relations of States. Cases, documentary analysis, and discussions.

478. THE FOREIGN POLICY OF CHINA

Spring term. Mr. Mzingo.

An analysis of Chinese concepts of foreign relations and the policy making process in the People's Republic of China. Emphasis will be placed on such topics as the contemporary Chinese view of their position in the international community and a comparison of the making and implementation of contemporary Chinese policies with respect to such areas as the Soviet bloc, Afro-Asian countries, and the West.

HOTEL ADMINISTRATION

Faculty: Robert A. Beck, Paul R. Broten, Vance Christian, Charles E. Cladel, Myrtle H. Ericson, Gerald W. Lattin, Helen J. Recknagel, Eben S. Reynolds, Charles I. Sayles, Thomas W. Silk, Laura L. Smith, Jeremiah J. Wanderstock.

Field Representative: G. W. Lattin, 103 Statler Hall.

MAJOR AND MINOR SUBJECTS

Hotel Administration

Hotel Accounting

Graduate work in the Field of Hotel Administration is open only to those who have completed in full the requirements for the undergraduate degree in the School of Hotel Administration at Cornell.

Students holding Bachelors' degrees in the liberal arts or in general business administration who wish a program in hotel administration normally enroll in the undergraduate division. They may become candidates for an additional Bachelor's degree or at their choice simply enroll for a specialized program of hotel administration courses suited to their particular needs.

Hotel Accounting may not be taken as a minor subject for the degree of Ph.D. if the major subject is Hotel Administration.

H.ACC. 186. INTERPRETATION OF HOTEL FINANCIAL STATEMENTS

Credit two hours. Prerequisites: Hotel Accounting 181 and 182. Mr. Lesure.

A study and discussion of hotel balance sheets, profit and loss statements.

A typical hotel balance sheet and operating ratios.

H.ACC. 189. PROBLEMS IN HOTEL ANALYSIS

Credit two hours.

Practice in some statistical procedures, using as illustrative material principally hotel and restaurant figures; presentation and interpretation; frequency distributions, average, median, mode, and measures of dispersion. Special emphasis is placed on linear correlation and regression.

H.ACC. 286. INTERNAL CONTROL IN HOTELS

Credit two hours. Prerequisite: Hotel Accounting 181. Mr. Barrett.

Discussion of the problems encountered in distributing the accounting and clerical work in hotels so as to provide a good system of internal control.

Study of many actual cases of the failure of internal control and the analysis of the causes of the failure. Practical problems and actual techniques of functioning systems of internal control.

H.ADM. 116. PROBLEMS OF HUMAN BEHAVIOR IN THE HOTEL AND RESTAURANT INDUSTRY

Credit two hours. Prerequisites: Hotel Administration 114 and permission of the instructor.

A consideration of the social-psychological factors involving conflict and dispute in hotels and restaurants. Extensive use is made of actual case studies within these industries. Interviewing techniques will be discussed and practiced among the group.

H.ADM. 155. LECTURES ON HOTEL MANAGEMENT

Credit one hour. To be taken for credit each semester. Under the direction of Professor Beck.

A series of lectures given by nonresident speakers prominent in the hotel, restaurant and allied fields.

H.ADM. 172. LAW AS RELATED TO INNKEEPING

Credit two hours. Best taken after Hotel Accounting 182 and Economics 104. Professor Sherry.

A study of the laws applicable to the ownership and operation of inns, hotels, motels, restaurants, and other places of public hospitality. Consider-

ation of the host's duties to guests, lodgers, boarders, tenants, invitees, licensees, and trespassers; the exclusion and ejection of undesirables; liability for personal injuries on and off the premises; the concept of negligence; liability for damage or loss of property; statutory limitations of liability; lien rights; concession agreements; leases; credit and collection practices; arrest and detention of wrongdoers, and miscellaneous statutes and administrative rules and regulations applicable to public houses. The material is treated from the point of view of the executive responsible for policy and decision making.

H.ADM. 192. SEMINAR IN REAL ESTATE FINANCE AND INVESTMENT

Credit two hours. Prerequisite: Economics 104 or its equivalent.

The changing character of the urban economy and its influence upon land values. Case studies of the development of land into specific improvements to generate a stream of investment income. A study of the leverage of financing and how it is used by the entrepreneur.

H.ADM. 196. GENERAL INSURANCE

Credit three hours. Mr. McNeill.

Designed to provide the student with a comprehensive introduction to the insurance field. The emphasis is upon fire insurance, casualty insurance, and multiple peril policies. Such topics are covered as the law of contracts as it relates to insurance; the fire insurance policy and fire insurance forms; business interruption, marine, burglary and crime, and liability insurance; rates and rate making; bonds; negligence and torts; compensation; package policies; adjustment of losses; and the types of insurers.

H.ADM. 205. INTERNATIONAL HOTEL CUISINE

Credit three hours. Professor Bernatsky.

International hotel cuisine is systematically presented. The correct utilization of the animal carcass and of plant life is demonstrated through the skillful preparation of a wide variety of food. The student has the opportunity to observe preparation skill in detail, write recipes, watch correct presentation and service, and taste the prepared food.

H.ADM. 219. SEMINAR IN PERSONNEL ADMINISTRATION

Credit two hours. Prerequisite: Hotel Administration 119 and permission of instructor. Professor Lattin.

A discussion class which provides the opportunity for students to put into practice the theory and techniques learned in the elementary course. Emphasis is placed on understanding and practicing personnel methods which can directly assist in controlling costs of the man-power program.

H.ADM. 238. COMMUNICATION

Credit three hours. Professor Recknagel.

The composition of written messages used in hotels, restaurants, and clubs. Includes the preparation of letters, memorandums, reports, and advertising by mail.

H.ADM. 251. RESTAURANT MANAGEMENT

Credit three hours. Professor Bernatsky.

An analysis of the principal operating problems in the restaurant field. Procedures, approaches, and techniques of management are explored and developed through case study, lecture, and discussion.

H.ADM. 253. SPECIAL STUDIES IN RESEARCH

Credit to be arranged. Open to graduate students in Hotel Administration only. Members of the Graduate Faculty.

Designed specifically for graduate students working on theses or other research projects. Any member of the Graduate Faculty of the School of Hotel Administration, upon consultation with the student, may be selected to direct a particular problem of special interest to the student.

H.ADM. 272. LAW OF BUSINESS: CONTRACTS, BAILMENTS, AND AGENCY

Credit two hours. Best taken after Hotel Accounting 182 and Economics 104. Professor Sherry.

A study of the formation, validity, enforcement, and breach of contracts; sales and dealings in personal property, bailments, storage, and shipment of goods; the laws of principal and agent, and employer and employee. The case method is used throughout, supplemented by notes and collateral readings. The aim is to develop skill and experience in analytical thinking as an aid and as a tool in modern managerial technique.

H.ADM. 274. LAW OF BUSINESS: BUSINESS ORGANIZATION — PARTNERSHIPS AND CORPORATIONS

Credit two hours. Best taken after Hotel Accounting 182 and Economics 104. Professor Sherry.

A study of the available forms of business organization, with special emphasis on general and limited partnerships and corporations. Comparison of the relative advantages and disadvantages of partnerships and corporations. Consideration of the use of limited partnerships in hotel and motel syndications, corporate promotion; financial devices for raising capital; corporate control and management, and the respective rights, duties, and powers of officers, directors, and stockholders. The aim is to correlate the legal, accounting, taxation, and management aspects of organized business enterprises.

H.ADM. 278. SALES PROMOTION

Credit one hour.

The hotel sales department — its function, organization, records, and procedures — is discussed.

The course is arranged with the cooperation of the Hotel Sales Management Association. At each session a different member of the Association, chosen by the Association in consultation with the School for his expertness in some one phase of sales promotion, discusses that phase and under the coordination of the instructor leads the discussion of the subject.

H.ADM. 316. LABOR-MANAGEMENT RELATIONS IN THE HOTEL INDUSTRY

Credit three hours. Prerequisite: Economics 104. Professor Beck.

The development of the trade union movement in the United States with special emphasis upon the AFL-CIO union affiliates active in the hotel and food industry. Case studies are included of disputes and grievances arising in unionized hotels and restaurants.

H.ADM. 353. SPECIAL PROBLEMS IN FOOD

Spring term. Credit one hour. Permission of instructors required. Prerequisites: Hotel Administration 120, 220, 206, 214, 215, and 201. Professors Ericson and Wanderstock.

122 HOTEL ADMINISTRATION

A seminar course for upperclassmen and graduate students designed to examine in detail various aspects of food and food service in hotels, restaurants, clubs, and institutions.

H.ENG. 265. HOTEL PLANNING

Credit three hours. Prerequisite: 12 hours of hotel engineering or permission of the instructor.

Design of the layout for a proposed hotel, from feasibility study through plans and specifications, emphasizing site solution, floor plans, guest room layouts, and the selection and arrangement of equipment in all of the various departments.

BPA 128. FINANCE

Credit three hours. Prerequisites: Economics 104 and permission of the instructor. Professor Nilsson.

The student is introduced to the principles and practices of finance and to their application in business and public administration. The uses of financial instruments, problems of short-term and long-term capital financing, methods of security distribution, financial expansion and reorganization, and the operation of specialized financial institutions and money and capital markets are surveyed. Considerable attention is given to the methods of financing current operations and to the financial problems of small business. The regulatory aspects of government financial controls are considered.

BPA 202. BUSINESS ENTERPRISE AND PUBLIC POLICY

Credit three hours. Prerequisites: Economics 104 and permission of the instructor. Professor Hutchins.

An integrating study of the interrelations among individuals, business firms, and governments in American society. It focuses attention on the problems of exercising socially responsible business leadership and on the nature and objectives of selected public policies impinging on business. The more important topics covered are management and the individual, or the philosophy of the business society; management's responsibilities to the organization, including certain problems of posture and practices; management's relations with rivals, especially problems of monopoly and competition and the anti-trust laws; management's responsibilities to customers, particularly with respect to promotional practices; the special responsibilities of those businesses affected with a public interest, such as transportation companies; the unusual problems of managements entrusted with roles in the national defense, especially in connection with radical innovation and technological development; the positions of firms receiving subsidies designed to promote public objectives, such as shipping enterprises; the relations between business finance and public finance, especially with respect to taxation; and management's role in the foreign relations of the United States, particularly with respect to trade, investment abroad, and foreign policy.

ARCH. 710. PRINCIPLES OF CITY AND REGIONAL PLANNING

Credit three hours. Professor Reps.

A review of the basic influences in the development of cities. A general view of the theory and accepted practice of city and regional planning, including a study of the social, economic, and legal phases.

HOUSEHOLD ECONOMICS AND MANAGEMENT

Faculty: Gwen J. Bymers, Helen G. Canoyer, Alice J. Davey, Mary E. Purchase, Mabel A. Rollins, Rose E. Steidl, Ethel L. Vatter, Kathryn E. Walker.

Field Representative: Gwen J. Bymers, G-8 Martha Van Rensselaer Hall.

MAJOR SUBJECTS

Ph.D. Household Economics
and Management

M.S. Home Management
Household Economics
Household Economics
and Management

MINOR SUBJECTS

Home Management
Household Economics
Household Economics and
Management

ADMISSION REQUIREMENTS. Admission to graduate work is based primarily on evidence of the student's competence to do advanced work. A general or specialized major in home economics is acceptable as background for study in this Field. Students with majors other than home economics for their baccalaureate degrees will also be considered since other subject matter areas are applied to the work and finances of the home. All candidates resident in the United States during the year preceding matriculation at Cornell must submit the scores of the Miller Analogies Test or the Aptitude Test of the Graduate Record Examination with their other credentials.

LANGUAGE REQUIREMENTS. Reading knowledge in *one* foreign language at a high level of proficiency is required of the *Ph.D.* candidate. This proficiency may be demonstrated by the satisfactory completion of a course at the 102 level in the Division of Modern Languages. It may also be attained by a Cornell written translation test administered by the Language Board after the student has passed the ETS examinations.

Danish, French, German, Norwegian, Russian, Spanish, or Swedish are approved languages for the Field. No foreign language is required for the *M.S.* degree.

EXAMINATIONS. For the *Ph.D.* degree the Field requires a comprehensive Admission to Candidacy Examination and a Final Examination on completion of the student's research in line with the University requirement. The Field also requires that a qualifying examination be passed by *Ph.D.* candidates before the beginning of the third semester of graduate study at Cornell. For the Master's degree, a final examination is administered at the completion of the candidate's research and course work.

Research and Study Opportunities

Programs of graduate work are individually planned to fit the needs and objectives of the student. No prescribed course of study is required, thus, no two programs are exactly alike. The student's past experiences, education, and future goals are considered in planning his program.

Since the subject matter in household economics and management draws on several disciplines, appropriate *minor subject or subjects* may be chosen from a variety of Fields including Agricultural Economics, Anthropology, Economics, Education, Industrial and Labor Relations, Psychology, and Sociology, as well as other branches of home economics. A single minor to be pursued in depth is approved for the Field.

The Field offers opportunities for study and research with a faculty having specialized interests. The faculty members and their specializations are:

Gwen J. Bymers, Professor: consumption economics; consumer problems; marketing.

Helen G. Canoyer, Professor, Dean of the College: consumer economics; consumption economics; marketing.

Alice J. Davey, Associate Professor: home management, theory and function.

Mary E. Purchase, Associate Professor: household equipment; physical science in the home.

Mabel A. Rollins, Professor and Head of the Department: real income of families and its measurement.

Rose E. Steidl, Associate Professor: work and workplace design; home management.

Ethel L. Vatter, Associate Professor: family economics; research design.

Kathryn E. Walker, Associate Professor: home management; work simplification.

Departmental Scholarships

Helen Canon Scholarship, \$750 (anticipated award).

Ruth Ada Birk Eastwood, \$950 (anticipated award).

Courses

500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

Fall and spring terms. Credit and hours to be arranged. Department faculty. For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent advanced work.

501. RESEARCH METHODOLOGY

Spring term. Credit two hours. Prerequisites: one course in statistics and consent of the instructor. T Th 11:15. MVR 301. Mrs. Vatter.

The theory and practice of research in the area of household economics and management. The meaning of science, patterns of scientific investigation in the social sciences, and their applicability to selected concepts in the departmental area.

The course is designed for first or second-year graduate students. Its purpose is to help students achieve the ability to make critical evaluation of pertinent research findings, and to design sound studies of their own.

597. SEMINAR

Fall and spring terms. T 4:40. MVR 114. Department faculty.

Planned to orient students to graduate work in the field, to keep students and faculty abreast of new developments and research findings, to acquaint them with subject matter in related areas, and to provide opportunity to examine and discuss problems of the field.

599. MASTER'S THESIS AND RESEARCH

Fall and spring terms. Registration with permission of the instructor and chairman of graduate committee. Misses Bymers, Davey, Purchase, Rollins, Steidl, Mrs. Vatter, Miss Walker.

619. HISTORY AND DEVELOPMENT OF HOME MANAGEMENT CONCEPTS

Fall. Credit three hours. Consult instructor before registering. M W 9:05. MVR G-20. Miss Davey.

An examination of fundamental ideas in home management, to include decision making, and values. The ideas will be traced historically. An overview of current thought and some projection into the future.

620. PHYSICAL SCIENCE IN THE HOME

Fall term. Credit two or three hours. Consult instructor before registering. W F 1:25 and laboratory two hours, to be arranged. MVR G-19. Miss Purchase.

Selected principles from mechanics, electricity, heat, sound, and light applied to household equipment. Chemical characteristics of soil, of surfaces to be cleaned, and of supplies used for cleaning and protecting surfaces; the laundry process and supplies. Background information in physical science for home economists working with equipment in teaching, extension, or home service. Three credits require attending the laboratory.

632. READINGS IN PERSONAL FINANCES

Spring term. Credit two hours. Prerequisite: H.E.M. 330 or the equivalent. Consult instructor before registering. F 2:30-4:25. Room to be arranged.

Examination of the nature of personal financial problems and of adjustments in families' financial practices under changing conditions. Review of research in family financial management.

640. READINGS IN THE ECONOMICS OF CONSUMPTION

Fall term. Credit three hours. Prerequisite: H.E.M. 340 or the equivalent. Consult instructor before registering. Hours to be arranged. Miss Bymers.

Critical review of current literature dealing with the economics of consumption.

650. READINGS IN MANAGEMENT OF HOUSEHOLD WORK

Spring term. Credit three hours. Consult instructor before registering. Hours to be arranged. Miss Steidl.

Critical review of research and other literature concerned with description and measurement of work, and design of physical arrangements for work. The study of the human costs of accomplishing household work is emphasized.

652. READINGS IN USE OF TIME IN HOMES

Fall term. Credit three hours. Consult instructor before registering. Hours to be arranged. Miss Walker.

Critical review of research in use of time for household work and leisure in the United States and other countries. Implications of this research in light of contemporary views of time-use problems as seen by sociologists, psychologists, and philosophers. Implications for research findings for decision makers in today's homes where multiple role alternatives exist.

[689. THE TEACHING OF HOME MANAGEMENT IN COLLEGE]

Spring term. Credit one to three hours by arrangement. Consult instructor before registering. Hours by arrangement. Miss Davey. Alternate-year course: not offered in 1968-69.

An examination of the ways home management concepts are currently being taught and the exploration of new approaches. Extent of involvement and exploration will depend upon the number of credits taken.

695. ECONOMIC PROBLEMS OF FAMILIES

Spring term. Credit three hours. Primarily for doctoral candidates. Miss Rollins.

Analysis of a few outstanding contributions to economic thought related to this field. Examination of methods of research.

698. SEMINAR FOR DOCTORAL CANDIDATES

Spring term. Credit two hours. Department staff.

Review of critical issues and thought in family economics and home management. Examination of research methods.

699. DOCTOR'S THESIS AND RESEARCH

Fall and spring terms. Registration with permission of the instructor and chairman of graduate committee. Misses Bymers, Davey, Purchase, Rollins, Steidl, Mrs. Vatter, Miss Walker.

When appropriate, undergraduate 200- and 300-level H.E.M. courses listed in the *Announcement of the New York State College of Home Economics* may be taken by a graduate student with the approval of his Special Committee and the professor in charge.

HOUSING AND DESIGN

Faculty: Glenn H. Beyer, Lewis L. Bower, Allen Bushnell, Helen J. Cady, Joseph Carreiro, G. Cory Millican, Jose Villegas, A. Lorraine Welling.

Field Representative: Joseph Carreiro, 3M12 Martha Van Rensselaer Hall.

MAJOR AND MINOR SUBJECT

Housing and Design

Design Faculty: Allen Bushnell, Helen J. Cady, Joseph Carreiro, G. Cory Millican, A. Lorraine Welling.

Housing Faculty: Glenn H. Beyer, Lewis L. Bower, Jose Villegas.

M.A. DEGREE. For the M.A. degree with a major in the Field of Housing and Design, work is focused either in housing or in design. The student's background should support the area of the field in which he proposes to major. For design students, a background in the visual arts is required; for housing students, a background in the social sciences is requisite for admission to the program.

The language requirement for the M.A. degree is college entrance language or proficiency in a language approved by the Special Committee.

PH.D. DEGREE. A major in the Field of Housing and Design leading to the Ph.D. degree is offered in the socio-economic aspects of housing. Students applying for admission must have a Master's degree in the social sciences or a related applied area such as city planning.

A candidate usually registers for two minor areas of study; however, when it is appropriate for his program, the student may elect one strong minor area of study. The broad choice of appropriate minor areas provides the flexibility to tailor work to fit the individual student's needs.

A candidate must demonstrate reading ability in two foreign languages other than the language in which he received his undergraduate education, and these may be chosen from the following four: French, German, Russian, English. A candidate may petition his Special Committee to substitute other languages.

Courses

DESIGN

[311A. DESIGN: PRINTMAKING]

Fall term. Credit three hours. Prerequisite: H.D. 100. Limited to fifteen students. T Th 10:10-1:10. MVR 322. Miss Straight. Not offered in 1968-69.

A studio course exploring the print as a design form. Emphasis is upon work done with the silk screen, but opportunities are provided for exploring other processes for both fabric and paper. Minimum cost of materials, \$10.

311B. DESIGN: WEAVING

Fall term. Credit three hours. Prerequisite: H.D. 100. Limited to eight students. T Th 9:05-12:05. MVR 408. Miss Cady.

A studio course exploring weaving as a design process for the structure of cloth. Projects experimenting with various fibers and materials are studied. Minimum cost of materials, \$10.

315. VISUAL COMMUNICATION TECHNIQUES

Spring term. Credit three hours. Limited to fifteen students. M W 9:05-12:05. MVR 318. Mr. Bushnell.

Development of two-dimensional techniques of visual presentation. Experiments in a variety of media appropriate to effective and dramatic visual persuasion and communication. Composition, introduction to the use of lettering, typography, and photography in page layout as part of portfolio preparation. The course is intended to serve as an introduction to the formal problems of book design, commercial graphics, corporate identity, and exhibition design.

323. CONTEMPORARY DESIGN

Spring term. Credit three hours. T 9:05, Th 9:05-11:00. MVR 317. Mr. Millican.

A historical study of the emergence and development of contemporary design, 1885 to present.

An examination of the social, economic, technical, and style forces which shape the design forms of the present. Also a critical analysis of selected works of furniture, fabrics, interiors of our time.

325. INTERIOR DESIGN

Spring term. Credit three hours. Prerequisites: H.D. 200, 201, and 220. Limited to fifteen students. M W F 10:10-12:05. MVR 408. Three additional hours of work required. Miss Cady.

Interior design problems in evaluation of design qualities of furnishings and materials. Room schemes developed in accordance with architectural design of the house and family use. Sketches, working drawings, presentation drawings for major projects. Field trip (approximate cost, \$30). An equivalent experience may be arranged.

326. INTERIOR DESIGN

Spring term. Credit three hours. Prerequisite: H.D. 325. Limited to 15 students. Staff.

Special units taught by participating staff. Interior design problems of varying complexities at a more accelerated pace which approximates professional practice.

330. CONTRACT INTERIORS

Spring term. Credit three hours. Prerequisite: H.D. 325 (for Home Economics students); no prerequisite for Hotel students. Limited to fifteen students. Mr. Millican.

This course involves the space planning and visual aspects of business and commercial interiors such as hotels, motels, public spaces, and specialized areas.

The course is primarily designed for Hotel Administration students and fulfills final Hotel Engineering elective requirements. The course is also available to those students in Home Economics with a strong professional focus. Permission of the instructor required for Home Economics students.

350. ENVIRONMENTAL DESIGN

Spring term. Credit three hours. Prerequisite: H.D. 240. Limited to fifteen students. Mr. Bushnell.

An investigation of residential housing with an emphasis on house to house relationships, better land use, establishing traffic-free living corridors, coordination of landscape, art graphics, and color. The student will be encouraged to develop schemes utilizing modern building techniques and be challenged to program variety, interest, and unity within this framework.

439. DESIGN SEMINAR

Spring term. Credit three hours. Time to be arranged. MVR 409. Mr. Carreiro.

500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

Fall and spring terms. Credit and hours to be arranged. Department faculty.

Independent advanced work for graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge.

599. M.A. THESIS AND RESEARCH

Fall and spring terms. Registration with permission of the instructor. Mr. Beyer, Mr. Bower, Mr. Bushnell, Miss Cady, Mr. Carreiro, Mr. Millican, Mr. Villegas and Miss Welling.

HOUSING

445. READINGS IN HOUSING

Spring term. Credit two hours. Prerequisites: H.D. 447 and permission of the instructor. Hours for discussion to be arranged. Mr. Beyer, Mr. Bower.

500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

Fall and spring terms. Credit and hours to be arranged. Department faculty.

Independent advanced work for graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge.

540. FUNDAMENTALS OF HOUSING

Fall term. Credit two hours. Consult the instructor prior to registration. Preregistration required. T Th 3:35. Mr. Bower.

An introductory survey of housing as a field of graduate study. Consideration of the spatial context and institutional setting of housing: the structure, operations, and performance of the housing market and the housebuilding industry; housing finance; the nature, operations, impact and policy of government housing programs; basic elements of housing market analysis; contemporary housing problems and issues.

542. HOUSING MARKET ANALYSIS

Fall term. Credit three hours. Consult the instructor prior to registration. F 2:30-4:25. Mr. Ragatz.

Designed to give the student a basic understanding of local housing market operations and mechanisms, including demand determinants such as demographic, economic, and institutional characteristics; supply determinants such as the quality, nature, and expected changes in the inventory; and market indicators such as price, vacancies, and real estate transactions. The first part of the course describes the traditional approach to housing market analysis. The second part is devoted to the description and evaluation of mathematical models in spatially locating required residential activities. Land use and transportation models are used as examples. A field problem is included in the course.

545. SOCIAL ASPECTS OF HOUSING IN DEVELOPING COUNTRIES

Fall term. Credit three hours. M W 11:15, T 7 P.M. Mr. Villegas.

An institutional approach will be followed in the first half of the course (fall semester) in studying a selected group of problems which have a direct influence on the social aspects of housing and urban development planning.

The first semester of the course is divided in ten blocks or sections: 1. Introduction, 2. Social Institutions, 3. Health Institutions, 4. Social Institutions, 5. Consumer Institutions, 6. Political Institutions, 7. Educational Institutions, 8. Religious Institutions, 9. Administrative Institutions, 10. Profile of the Future.

546. SOCIAL ASPECTS OF HOUSING IN DEVELOPING COUNTRIES

Spring term. Credit three hours. Prerequisites: H.D. 545 and permission of instructor. M W 11:15, M 7 P.M. Mr. Villegas.

The principal objective of the second half of the course (spring semester) is to study a selected group of housing and planning developments. The case method approach will be followed.

The second semester of the course has been divided into nine blocks or sections: 1. Urban Development Strategies for Urban Marginal areas: Squatter, Shanty Towns, Slum Clearance, 2. Self-help Method, 3. Housing and Planning for Areas in the Initial Stages of Social and Economic Development, 4. New City in a City, 5. High Rise Apartments, 6. Cooperative Housing, 7. City, Regional Planning and Housing, 8. New Towns, 9. Rural Housing and Planning.

547. INTERNATIONAL SEMINAR ON URBAN MARGINAL AREAS

Spring term. Credit three hours. Permission of the instructor is required. M W 9:05, T 7 P.M. Mr. Villegas.

The principal seminar objectives are: to formulate international criteria to evaluate the governments' planning strategies toward urban squatter and shanty town areas in Latin America, and other developing countries; to analyze current research on political development aspects of such areas; and to study selected problems: building and construction, physical planning, consumer behavior and informal socio-economic organization.

548. SOCIAL PROBLEMS IN HOUSING

Fall term. Credit three hours. Staff.

A consideration of individuals, families, and specific groups in relation to requirements for housing units and neighborhoods. Undertaken through an analysis of human factors related to design and through an examination of current housing programs and policies as they affect various groups. Special attention is given to problems of economically disadvantaged households.

130 INDUSTRIAL AND LABOR RELATIONS

549. PRODUCTION OF HOUSING

Spring term. Credit two hours. T Th 3:35. MVR 301. Mr. Bower.

An examination of the system of producing shelter in the U.S., its structure and major processes. Focus will be on decision-making within existing institutional constraints.

Description and evaluation of major sub-systems including contractual and speculative homebuilding, the prefabrication industry, mobile home manufacturing and production of rental housing. Some attention will be devoted to building of New Towns and production of housing in conjunction with a number of special-purpose governmental programs.

550. HOUSING AND COMMUNITY DEVELOPMENT

Spring term. Credit two hours. Consult with instructors prior to registration. F 2:30-4:25. Mr. Hahn and Mr. Ragatz.

An introductory course in community development. Theory principles and techniques involved in process. Description as a social movement, with emphasis on the human and political processes. Evaluation of contribution of various scientific disciplines to community development and review of selected research studies in the field.

599. M.A. THESIS AND RESEARCH

Fall and spring terms. Registration with permission of the instructor. Mr. Beyer, Mr. Bower, and Mr. Villegas.

600. SEMINAR IN CURRENT HOUSING ISSUES

Spring term. Credit three hours. Prerequisite: H.D. 447 or permission of the instructor. M 4-6. Mr. Beyer.

601. THE FUTURE OF THE HOUSE AND URBAN LIFE STYLES

Fall term. Credit four hours. Permission of the instructor is required. M W 9:05, M 7-9 P.M. Mr. Villegas.

The course will analyze concepts including: transience of values in housing and urban development; the ideological and sociological assumptions of the cybernetic revolution; the impact of science and technology on post-industrial society; transient environment; planned obsolescence, the rental revolution and mobile architecture; the new biology and the family; the interface of the aerospace industry and urban research.

During the semester some Saturday seminars will be conducted with participation of a group of scientists from U.S. industry working on Future House research projects.

699. PH.D. THESIS AND RESEARCH

Fall and spring terms. Registration with permission of the instructor. Mr. Beyer, Mr. Bower, and Mr. Villegas.

INDUSTRIAL AND LABOR RELATIONS

Faculty: Robert L. Aronson, Isadore Blumen, George W. Brooks, Bert R. Brown, Ralph N. Campbell, M. Gardner Clark, Alice H. Cook, Donald E. Cullen, Robert E. Doherty, W. Duane Evans, Robert H. Ferguson, Felician F. Foltman, William H. Friedland, Walter Galenson, Gerald Gordon, James A. Gross, Leopold W. Gruenfeld, Kurt L. Hanslowe, George H. Hildebrand, Wayne L. Hodges, Vernon H. Jensen, Milton R. Konvitz, A. Gerd Korman,

Henry A. Landsberger, Duncan M. MacIntyre, Philip J. McCarthy, Jean T. McKelvey, Emil A. Mesics, Frank B. Miller, David G. Moore, James O. Morris, Maurice F. Neufeld, Robert L. Raimon, Robert F. Risley, Ned A. Rosen, Fred Slavick, N. Arnold Tolles, Harrison M. Trice, William J. Wasmuth, William F. Whyte, Lawrence K. Williams, John P. Windmuller.

Field Representative: Robert L. Aronson, 101 Ives Hall

MAJOR SUBJECTS

Collective Bargaining, Labor Law,
and Labor Movements
Economic and Social Statistics
Labor Economics and Income
Security
Organizational Behavior

MINOR SUBJECTS

Industrial and Labor Relations
Problems (available only for stu-
dents majoring in other Fields of
the Graduate School)
International and Comparative
Labor Relations

ADMISSION REQUIREMENTS. All applicants whose native language is English are required to take the aptitude portion of the Graduate Record Examination. All applicants whose native language is not English are required to take the TOEFL language test. For admission to the Ph.D. program, a Master's degree or equivalent is required.

LANGUAGE REQUIREMENTS FOR THE VARIOUS DEGREES. The Field offers a special professional degree, the Master of Industrial and Labor Relations (M.I.L.R.), which is essentially based on course work. There is no thesis requirement nor is there a requirement for proficiency in a foreign language. For the Master of Science degree and the Ph.D. degree, the matter of foreign language requirements is left up to each individual's Special Committee.

Examinations

1. **M.I.L.R. EXAMINATION.** The M.I.L.R. program is designed to provide broad coverage within the field and some opportunity for advanced specialized work. The program requires three semesters, not to include summer sessions, and a total of twelve courses, eight of which are required. At the conclusion of the third semester, a written and oral comprehensive examination, which covers the entire body of knowledge deemed necessary for professional competence in the field, is administered.

2. **M.S. EXAMINATION.** The final examination for the Master of Science degree includes both a test of subject matter competence in the major and minor fields and a defense of the Master's thesis. The examination is both written and oral. It is attended by two or more faculty members who are not members of the student's Special Committee. The chairman of the M.S. Committee assumes the obligation to assure the attendance of the additional members of the Graduate Faculty who may be from appropriate Fields other than Industrial and Labor Relations. In addition, the completed thesis must be submitted to the Committee sufficiently in advance to ensure that the Final Examination can be scheduled and announced with at least fifteen days notice.

3. **PH.D. EXAMINATION.** In addition to the comprehensive Admission to Candidacy Examination, the Field of Industrial and Labor Relations may administer a preliminary examination prior to admitting students to the doctoral program. A defense of the doctoral dissertation is, of course, required.

Rules of the Field governing this Final Examination include the announcement of it to the faculty of the Field by the chairman of the Special Committee at least fifteen days before the scheduled date, and the provision that the chairman also invite scholars from outside the Field, where appropriate, whether or not they are members of the University faculty.

Research and Study Opportunities and Specializations of the Faculty

Opportunities for professional (usually terminal) study offered by the M.I.L.R. degree have already been pointed out. The faculty for this program is drawn very widely from the various subject matter departments of the Field. For specialized program opportunities, it would be most convenient to consider these one at a time in terms of the subject matter departments.

COLLECTIVE BARGAINING, LABOR LAW, AND LABOR MOVEMENTS

Mr. Neufeld, Chairman; Mrs. Cook, Mrs. McKelvey, Messrs. Brooks, Cullen, Doherty, Gross, Hanslowe, Jensen, Konvitz, Korman, Morris, Windmuller.

This subject matter area is staffed by lawyers, institutional economists, and economic and social historians.

Departmental faculty members specialize in the following three areas: (a) the study of the legal framework within which labor-management relations systems in the United States have developed; (b) the study of the history and structure of various components of the American trade union movement at the local, national, and confederation levels; and (c) the study of institutions, practices, and principles relevant to understanding how parties at interest resolve conflicts over the conditions of the labor contract.

ECONOMIC AND SOCIAL STATISTICS

Mr. McCarthy, Chairman; Messrs. Blumen, Evans.

Staff members of the department are mathematical statisticians interested in the application of their area of expertise to the social studies. They offer students an opportunity to study how the tools of mathematical statistics help in describing and analyzing socioeconomic phenomena and how various hypotheses can be tested quantitatively.

LABOR ECONOMICS AND INCOME SECURITY

Mr. Raimon, Chairman; Messrs. Aronson, Clark, Ferguson, Galenson, Hildebrand, MacIntyre, Slavick, Tolles.

This department is staffed primarily by economists. Such different specialized areas within economics as micro- and macro-, institutional and theoretical, welfare, developmental, and comparative economics are represented. In the area of the social insurances, scholarly competence and recognition do not require extensive formal training in economics, although there are also opportunities to apply economics to this subject.

Scholarly interests of students in this subject matter area lie primarily in two directions. Some seek to generalize about the ways in which movements of prices, wages, and workers are related and to study the mechanisms of various labor markets. Others examine private and/or public programs designed to insure the working population against those risks of living in an industrial society which can be expressed in money terms.

ORGANIZATIONAL BEHAVIOR

Mr. Miller, Chairman; Messrs. Brown, Campbell, Foltman, Friedland, Gordon, Gruenfeld, Hodges, Landsberger, Mesics, Risley, Rosen, Trice, Wasmuth, Whyte, Williams.

This department is staffed by (a) behavioral scientists including psychologists, social psychologists, sociologists, and cultural anthropologists, all of whom are concerned with individuals in work organizations and in industrial society; and (b) students of the manpower and organizational management function in complex work organizations.

The major opportunities for study offered by the department are twofold. Some scholars study the nature of industrial society as a *context* for complex work organizations, or study such organizations per se, or study the behavior of small groups and individuals which form the components of such organizations. A second group links the study of the management of manpower to the study of work organizations, primarily at the level of the *firm* (staffing, training and development, rewards and punishment systems), but including manpower supply and training problems at the community and national level.

INTERNATIONAL AND COMPARATIVE LABOR RELATIONS

Mr. Windmuller, Chairman; Mrs. Cook, Mrs. McKelvey, Messrs. Clark, Friedland, Galenson, Hildebrand, Landsberger, Morris, Neufeld, Whyte.

Members of this department are also attached to one of the other teaching departments. In this subject matter area, students have an opportunity to examine the following two major problem areas. The first is a comparative analysis of institutions which have developed to handle the labor market problems of industrial societies other than the United States, i.e., labor movements, patterns of industrial dispute settlement, the nature of governmental intervention both in regulating labor-management conflict and in protecting workers from the risks of industrial life. The second is the study of the same kinds of social institutions and economic conditions in *developing* countries which facilitate or impede industrial development.

Collective Bargaining, Labor Law, and Labor Movements

ILR 500. COLLECTIVE BARGAINING I

Credit three hours. Fall and spring terms. Not open to ILR undergraduate students. Mr. Cullen, Mr. Gross, or Mr. Jensen.

A comprehensive study of collective bargaining with special emphasis being given to legislation pertinent to collective bargaining activities as well as to the techniques and procedures of bargaining and to the important substantive issues that come up in negotiation and administration of the collective agreement. Attention will also be given to problems of handling and settling industrial controversy.

ILR 501. COLLECTIVE BARGAINING II

Credit three hours. Spring term. Prerequisite: ILR 500 or equivalent. Mr. Cullen, Mr. Gross, or Mr. Jensen.

A detailed study of contract making and administration with particular reference to recent trends and problems in collective bargaining. Attention will be given to several representative industries, and prevailing agreements and case problems will be studied.

ILR 502. LABOR RELATIONS LAW AND LEGISLATION

Credit three hours. Spring term. Open to ILR graduate students. Mr. Hanslowe or Mr. Konvitz.

A survey and analysis of the labor relations law in which an examination is made of the extent to which the law protects and regulates concerted action by employees in the labor market. The legal framework within which the collective bargaining takes place is considered and analyzed. Problems of the administration and enforcement of the collective agreement are considered, as are problems of protecting the individual member-employee rights within the union.

ILR 503. ARBITRATION

Credit three hours. Spring term. Prerequisite: for undergraduates, ILR 300; for graduates, ILR 500. Mrs. McKelvey, Mr. Gross, or Mr. Jensen.

A study of the place and function of arbitration in the field of labor management relations, including an analysis of principles and practices, the preparation and handling of materials in briefs or oral presentation, and the work of the arbitrator, umpire, or impartial chairman.

ILR 504. LABOR DISPUTE SETTLEMENT

Credit three hours. Fall or spring terms. Prerequisite: for undergraduates, ILR 300; for graduates, ILR 500. Mrs. McKelvey, Mr. Gross, or Mr. Jensen.

An historical and contemporary study of the role of government in the adjustment of labor disputes, including such topics as the Railway Labor Act, Taft-Hartley Act, and state and federal laws governing emergency and public employment disputes. The course will also cover the leading administrative agencies in this field, including the Federal Mediation and Conciliation Service; state mediation agencies with special emphasis on the New York State Board of Mediation; and municipal mediation services. Various governmental techniques for dealing with labor disputes, including injunctions, seizure, fact finding, and compulsory arbitration will be analyzed.

ILR 505. LABOR UNION HISTORY AND ADMINISTRATION

Credit three hours. Fall term. Not open to ILR undergraduate students. Mrs. Cook, Mr. Brooks, Mr. Korman, or Mr. Neufeld.

A presentation of the history of labor in America, with some reference to colonial and early nineteenth-century labor, but with emphasis upon post-Civil War trade union development; an analysis of the structure and functions of the various units of labor organization, ranging from the national federation to the local union; and some consideration of special problems and activities, such as democracy in trade unions and health and welfare plans, as well as of various types of unions, such as those in construction, maritime trades, entertainment, transportation, and basic industry.

ILR 506. READINGS IN THE HISTORY OF INDUSTRIAL RELATIONS IN THE UNITED STATES

Credit three hours. Fall term. Prerequisite: for undergraduates, ILR 300 and 301; for graduates, ILR 505 or equivalent. Mrs. Cook, Mr. Korman, or Mr. Neufeld.

A seminar covering, intensively and in historical sequence, the key documents, studies, legislative investigations, and memoirs concerning American industrial relations systems. Primarily designed to aid students in orienting themselves systematically and thoroughly in the field. Among the authors and reports covered are E. P. Thompson, John R. Commons, Norman Ware, Lloyd Ulman, the Abram Hewitt Hearings, the Henry W. Blair Hearings, the United States Industrial Commission, Philip Taft, Paul F. Brissenden, the United States Commission on Industrial Relations, Theodore W. Glocker, George E. Barnett, Frederick W. Taylor, Henry Gantt, Mary Parker Follett, Irving Bernstein, and Walter Galenson.

ILR 507. THEORIES OF INDUSTRIAL RELATIONS SYSTEMS

Credit three hours. Spring term. Prerequisite: for undergraduates, ILR 300 and 301; for graduates, ILR 505 or equivalent. Mrs. Cook, Mr. Korman, Mr. Neufeld, or Mr. Polisar.

An examination of the leading theories concerning the origins, forms, organization, administration, aims, functions, and methods of industrial relations systems. Among the theories studied are those formulated by Karl Marx, Mikhail Bakunin, Georges Sorel, Vladimir Lenin, Lujo Brentano, Beatrice and Sidney Webb, Herbert Croly, Antonio Gramsci, Selig Perlman, Frank Tannenbaum, the Guild Socialists, Karl Polanyi, and Clark Kerr, Frederick Harbison, John Dunlop, and Charles A. Myers.

LABOR LAW (Law 312)

Credit three hours. Fall term. Mr. Hanslowe.

The study of collective bargaining, including the right of employees to organize and to engage in concerted activities (strikes, boycotts, picketing); the resolution of questions concerning the representation of employees; the duty of employers and unions to bargain; the administration and enforcement of collective bargaining agreements; grievance procedure and arbitration; the duty of fair representation; and internal union affairs.

ILR 600. LABOR RELATIONS LAW AND LEGISLATION

Credit three hours. Spring term. Permission of the instructor required. Mr. Hanslowe or Mr. Konvitz.

Following a brief survey of the development of labor relations law and legislation in the United States, an intensive study will be made of selected controversial aspects of the subject. Concentration will be on the questions

that currently have a special interest because of their impact on public opinion as well as on labor-management relations. Some of the problems that will probably be analyzed are: national emergency disputes; strikes by public employees (e.g., teachers); limits on organizational picketing; the secondary boycott; enforcement of arbitration clauses and awards; legal aspects of featherbedding in some selected industries.

ILR 601. COLLECTIVE BARGAINING

Credit three hours. Fall and spring terms. Mrs. McKelvey, Mr. Cullen, Mr. Gross, or Mr. Jensen.

An intensive analysis of the process and procedures of collective bargaining and the substantive issues in labor-management relations. Special consideration is given to the techniques and procedures used in drafting and administering the collective agreement, with emphasis being placed on the day-to-day problems that grow out of the administration of labor-management relations.

ILR 602. PROBLEMS IN LABOR LAW

Credit three hours. Fall or spring terms. Mrs. McKelvey and Mr. Hanslowe.

Intensive analysis of selected groups of legal problems arising out of labor relations and arbitrations, based on documentary materials including briefs, minutes, court, and agency proceedings. Weekly or biweekly written reports are required.

ILR 603. GOVERNMENTAL ADJUSTMENT OF LABOR DISPUTES

Credit three hours. Spring term. Mrs. McKelvey, Mr. Gross, or Mr. Jensen.

A study of particular problems of the role of the government in the adjustment of labor disputes. Opportunity is afforded to investigate and analyze the various techniques which are commonly used, and to investigate particular governmental agencies and their operations, including federal, state, and municipal agencies.

ILR 604. THEORIES OF INDUSTRIAL AND LABOR RELATIONS

Credit three hours. Spring term. Mr. Konvitz.

A study of some significant ideas that have played important roles in our industrial society, especially for their effects on labor-management relations. The approach is philosophical and ethical but with an awareness of the social role of ideas. In the past, the semester was devoted to a study of labor relations theories from the standpoint of Marxist ideology (Marx, Engels, and Laski); labor relations from the standpoint of the economic and social theories of Adam Smith and his predecessors; theories of the nature of work in recent theology.

ILR 605. RESEARCH SEMINAR IN THE HISTORY, ADMINISTRATION, AND THEORIES OF INDUSTRIAL RELATIONS IN THE UNITED STATES

Credit three hours. Fall or spring terms. Prerequisite: ILR 506 and 507, or permission of the instructor. Mrs. Cook, Mr. Brooks, Mr. Korman, Mr. Morris, or Mr. Neufeld.

Intensive studies in theories of industrial relations, the social and political history of workers in urbanizing and industrializing communities, the history of ideas which impelled the labor movement, the history and government of individual unions and confederations of unions, the development of ideas in the management of personnel, and comparative studies of American, European, and non-European industrial relations systems. The areas of study will be determined each semester by the instructor offering the seminar.

ILR 606. LABOR AND GOVERNMENT FROM THE 1920's TO TAFT-HARTLEY

Credit three hours. Fall term. Open to graduate students and to seniors with consent of the instructor. Prerequisite: for undergraduates, ILR 300 and 301; for graduates, ILR 505. Mrs. Cook.

An historical survey of the pre-New Deal, the New Deal, World War II, and the immediate postwar periods, culminating in the passage of the Taft-Hartley Act. The course will trace the development and explore the nature and effect of government policy on labor welfare and labor relations legislation. Students will each select a specific event or problem for intensive research on which they will report to the class and prepare a paper.

ILR 609. PROFESSIONALS, WHITE-COLLAR WORKERS, AND THEIR ORGANIZATIONS

Credit three hours. Spring term. Offered in even-numbered years only. Open to seniors and graduate students with permission of the instructor. Mrs. Cook.

Attention will be directed to characteristics of professional and clerical workers in the white-collar section of the work force. The problems of professionals, both self-employed and salaried, will be considered. A variety of professional organizations and of trade unions will be studied as responses to the collective needs of both groups. The distinctions arising from the conditions of public and private employment will also be considered.

ILR 699. DIRECTED STUDIES

Credit to be arranged. Fall and spring terms.

For individual research conducted under the direction of a member of the faculty.

Economic and Social Statistics

ILR 510. ECONOMIC AND SOCIAL STATISTICS

Credit three hours. Fall and spring terms. Mr. McCarthy.

A nonmathematical course for graduate students in the social studies without previous training in statistical method. Emphasis will be placed on discussion of technical aspects of statistical analysis and on initiative in selecting and applying statistical methods to research problems. The subjects ordinarily covered will include analysis of frequency distributions, regression and correlation analysis, and selected topics from the area of statistical inference.

ILR 610. ECONOMIC AND SOCIAL STATISTICS

Credit three hours. Fall term. Prerequisite: permission of the instructor. Mr. Evans.

This course is directed primarily toward the basic concepts underlying quantification in economics, and an examination of how these requirements are realized in practice. It is intended to familiarize students with the tools used to analyze the labor force, employment, unemployment, production, value-added, productivity, labor costs, prices, capital stocks, etc.; determine what they mean; their proper areas of application; and their limitations. Topics in the methodology of economic statistics, including time series analysis and index number problems, will be reviewed.

ILR 614. THEORY OF SAMPLING

Credit three hours. Spring term. Prerequisite: calculus and one course in statistics beyond the introductory level. Mr. McCarthy.

A companion course to ILR 310, Design of Sample Surveys, stressing the development of the fundamentals of sampling theory. Attention will be paid to recent progress in the field. Occasional illustrative material will be given to indicate the application of the theory.

ILR 699. DIRECTED STUDIES

Credit to be arranged. Fall and spring terms.

For individual research conducted under the direction of a member of the faculty.

Organizational Behavior

Graduate students majoring or minoring at the Master's or doctoral level in the area of organizational behavior will normally complete the core offering in this area, Organizational Behavior I and II, ILR 520, 521. Depending upon the nature of the program of the individual student, both courses may be taken in the same term, or they may be taken in different terms with either course preceding the other. In addition, graduate students majoring in organizational behavior will normally take ILR 564-565, Behavioral Research Theory, Strategy and Methods I and II. (Exemptions and exceptions are made on an individual basis.)

All M.I.L.R. students will be expected to take both core courses as well as an elective course within the subject area of organizational behavior as a part of their program unless exempted under procedures established in the M.I.L.R. program. ILR 523, Manpower and Organization Management, is recommended as the optional course within the subject area.

ILR 520. ORGANIZATIONAL BEHAVIOR I

Credit three hours. Fall and spring terms. Required of graduate students majoring or minoring in the area of organizational behavior and M.I.L.R. candidates. Open to other graduate students with a major or minor in the field of industrial and labor relations. Department faculty.

Survey of concepts and studies from the fields of individual and social psychology, selected for their pertinence to the area of organizational behavior. The relationship between research findings and application to organizational problems will be stressed. Consideration of individual differences of various kinds; attitude formation and its relation to social processes; factors affecting different kinds of learning; motivation and its relationship to productivity; perception and its relationship to evaluation of performance; leadership and the influence process; group formation and its effect on the individual and the organization.

ILR 521. ORGANIZATIONAL BEHAVIOR II

Credit three hours. Fall and spring terms. Required of graduate students majoring or minoring in the area of organizational behavior and M.I.L.R. candidates. Open to other graduate students with a major or minor in the field of industrial and labor relations. Department faculty.

Organizational Behavior II deals primarily with three major subject matter areas including: (1) the structure and dynamics of organizations, (2) the administration of the employee relations functions, and (3) cases and problems

which help the student to integrate and apply conceptual understandings underlying work in the subject of organizational behavior. Designed to provide graduate students with the basic background and understanding of the organization and management of organizations and of the problems arising within the organizational context. The basic background, coupled with work in employee relations, is designed as a preliminary to more intensive work in organizational behavior.

ILR 523. MANPOWER AND ORGANIZATION MANAGEMENT

Credit three hours. Alternate terms. Prerequisite: ILR 520 or 521. Mr. Foltman, Mr. Mesics, Mr. Miller, Mr. Trice, or Mr. Wasmuth.

A basic graduate course covering the major areas of manpower and organizational policy as they relate to human behavior and work organizations. Intensive consideration will be given to such aspects of personnel work as selection and placement, compensation, training and development, employee-employer relations, health and safety, employee benefits and services, and personnel research. The course will examine how the conduct of the personnel function affects attainment of all organizational objectives. In addition, the personnel and industrial relations occupations will be examined in terms of their career patterns and organizational role.

ILR 524. PUBLIC POLICY AND DEVELOPMENT OF HUMAN RESOURCES

Credit three hours. Fall term. Mr. Foltman.

Analysis of the need for development of human resources, trends in work force requirements and implications for public policy, the role of government and of educational institutions in providing development programs, and the effectiveness of such programs. Attention to the rationale, organization, and administration of specific programs, such as apprenticeship, vocational and technical schools, technical institutes, university programs for development of technical, scientific, and managerial skills, and the foreign technical assistance program. Implications and problems of public support for the development of human resources.

ILR 525. PERSONNEL SELECTION AND PLACEMENT

Credit three hours. Spring term. Prerequisite: ILR 210, 510, or equivalent. Permission of the instructor is required for non-ILR students. Mr. Campbell, Mr. Rosen, or Mr. Trice.

A study of the employment function in personnel administration. Designed to analyze the techniques and devices used in the recruitment, interviewing, testing, selection, and placement of personnel. Emphasis is placed on applied psychological measurement principles and techniques. Interviews, personal history analysis, psychological tests, and the evaluation of these procedures in terms of appropriate criteria of success on the job will be considered in detail.

ILR 526. ADMINISTRATION OF COMPENSATION

Credit three hours. Fall term. Open to graduate students and upperclassmen who have completed ILR 321, 521, 523, or equivalent. Department faculty.

The development and administration of wage and salary programs with major emphasis on internal consideration. Subjects include program principles, objectives, and policies; organization of the function; and procedures to implement policies. Topics include job and position analysis; preparation of description-specifications; job evaluation; incentive applications; wage and salary structures; the use of wage surveys; supplemental payments, including premi-

um pay, bonuses, commissions, and deferred compensation plans; and the use of automatic increment provisions. Case studies and assigned projects will cover selected programs.

ILR 527. MANAGEMENT AND LEADERSHIP DEVELOPMENT

Credit three hours. Fall term. Mr. Campbell or Mr. Foltman.

Study of the factors affecting the growth and development of managers and leaders in industrial and other organizations. Consideration is given to the organizational environment; formal and informal developmental programs; leadership theory; and individual attitudes and beliefs. Special emphasis is given to analysis of specific case studies of actual practice.

ILR 528. CASE STUDIES IN PERSONNEL ADMINISTRATION

Credit three hours. Fall term. Mr. Mesics or Mr. Wasmuth.

A seminar devoted to an analysis of personnel management activities and their impact on organizational objectives and administration. Cases, incidents, and field data, derived from a variety of institutional settings, will provide a framework for examining and explaining the various roles played by personnel managers. When it is appropriate, attention will be given to the evolution and formalization of personnel activities within growing small business organizations. Students will have an opportunity for field work and are required to prepare individual cases for class presentation and discussion.

ILR 529. DESIGN AND ADMINISTRATION OF TRAINING PROGRAMS

Credit three hours. Spring term. Mr. Foltman or Mr. Mesics.

A comprehensive study of organizational training with special emphasis on intraorganization policy, program, and evaluation. Attention will be given, through case discussion, to the philosophy and administration of selected training programs.

ILR 562. ADMINISTRATIVE THEORY AND PRACTICE

Credit three hours. Spring term. Prerequisite: For advanced undergraduates, ILR 220 or its equivalent and permission of the instructor; for graduate students, ILR 520 or permission of the instructor. Mr. Campbell.

Analysis of the role of the decision-maker in carrying out his administrative functions. Consideration will be given to organizational structure and relationships, process of planning and decision making, measurement and control, and the direction of work. Basic theories from scientific management, bureaucratic studies, and human relations research will be analyzed with regard to their usefulness to the practicing administrator. Current practices will be evaluated against research findings. Cases will be used frequently to examine the nature of administration as both art and science.

ILR 563. THEORIES AND METHODS OF ORGANIZATIONAL CHANGE

Credit three hours. Spring term. Open to graduate students and upperclassmen. Prerequisite: ILR 520, ILR 521 and/or consent of the instructor. Department faculty.

The primary concern will be an examination of certain change agents as they attempt to initiate, structure, and direct organizational change. Attention will be given to the strategies used by these change agents as they are related to selected theories of organizational behavior and organizational change. Among the change agents which will be considered are consultants, union organizers, applied social scientists, staff and managerial personnel.

ILR 564. BEHAVIORAL RESEARCH THEORY, STRATEGY AND METHODS I

Credit variable. Fall term. Permission of the instructor required. Department faculty.

Designed to meet the needs of M.S. and Ph.D. candidates majoring in organizational behavior, but other graduate students may enroll.

Units of material to be included are: (1) theoretical, conceptual, and ethical questions; (2) survey research and attitude scaling procedures; (3) laboratory research methods; (4) participant observation and interview methods, and (5) the use of documents and qualitative data analysis. The course will provide the student with important philosophical background for doing research and will expose him to a well-balanced, interdisciplinary set of quantitative and qualitative research tools. Readings will be supplemented by projects and laboratory exercises.

ILR 565. BEHAVIORAL RESEARCH THEORY, STRATEGY AND METHODS II

Credit variable. Spring term. Permission of the instructor required. Department faculty.

Must be taken in sequence with ILR 564 except by petition. Designed to meet the needs of M.S. and Ph.D. candidates majoring in organizational behavior, but other graduate students may enroll.

ILR 566. MANAGEMENT OF SCIENCE

Credit three hours. Spring term. Open to undergraduates with permission of the instructor. Mr. Gordon.

The course treats the management of science on both the micro- and macro-levels. It will examine empirical findings as they bear on national policy with respect to science and as they bear on environmental settings which inhibit or stimulate accomplishment. Emphasis will be placed on current problems such as freedom and control of science, scientific secrecy, bureaucracy and creativity, financial and political underpinnings of research, and the emerging social system of science.

ILR 625. MANPOWER AND ORGANIZATION MANAGEMENT

Credit three hours. Fall and spring terms. Mr. Foltman, Mr. Mesics, Mr. Trice, and department faculty.

A seminar in which intensive study will center in one or two specific areas of manpower and organization management. For example, the area of evaluation of personnel functions might be selected, with each student taking as his seminar project the evaluation of a particular personnel function. Other areas that might be chosen for intensive study are policy formulation and implementation; wage and salary administration; communication; organizational and personal development; testing and rating, training, attitude and morale studies; and personnel research. Designed to provide a framework for individual and group research efforts in the area of personnel administration and to aid constructively such research. Seminar time will be made available for a review of such efforts. Readings, field visits, and guest speakers are included.

ILR 627. CURRENT ISSUES AND RESEARCH IN HUMAN RESOURCES DEVELOPMENT

Credit three hours. Fall and spring terms. Fall term: Mr. Foltman or Mr. Gruenfeld. Spring term: Mr. Foltman, Mr. Gruenfeld, or department faculty.

A graduate seminar centering on selected issues and relevant research involved in the development of managerial and work force skills (particular emphasis for the seminar to be determined with the seminar group). Seminar papers and class discussions might concentrate on such topics as management development, impact of technological change on training programs, development of scientific and professional personnel, or labor union education.

ILR 628. CASE STUDIES IN ORGANIZATIONAL BEHAVIOR, COMMUNICATION, AND PUBLIC OPINION

Credit three hours. Spring term. Mr. Hodges.

A seminar dealing with representative cases and problems in the public and in-plant relationships of industry and labor, with particular emphasis on employee communications and community relations.

ILR 660. SEMINAR ON PERSONALITY AND ORGANIZATION

Credit three hours. Fall or spring term. Prerequisite.: ILR 520 and ILR 521, or permission of the instructor. Mr. Williams.

This seminar attempts to integrate available research and focuses on both personality and organizational variables. Investigations in the field of culture and personality will be examined for their utility in the understanding of organizational functioning. The relationship of personality to economic development will also be examined. Participants will be encouraged to write a term paper on the interrelationship of technology and values.

ILR 661. LEADERSHIP IN ORGANIZATIONS

Credit three hours. Spring term. Permission of the instructor required. Mr. Gruenfeld.

This seminar is designed to examine theories and research findings from the behavioral sciences that are relevant to leadership and the influence process in groups and organizations. Personality, situational factors, intra-group processes, interpersonal perception as well as motivation to lead and to follow will be discussed. The implications for leadership training, organization development, and action research will be explored.

662. CROSS-CULTURAL STUDIES OF WORK AND INSTITUTIONAL DEVELOPMENT

Credit three hours. Fall and spring terms. Prerequisite: Permission of the instructor. Mr. Whyte.

A research seminar devoted to the analysis of survey and anthropological field reports from Peruvian villages, industrial plants, and schools. Each student will select a problem area for analysis and will write a research report.

ILR 699. DIRECTED STUDIES

Credit to be arranged. Fall and spring terms.

For individual research conducted under the direction of a member of the faculty.

International and Comparative Labor Relations

ILR 530. COMPARATIVE INDUSTRIAL RELATIONS SYSTEMS I

Credit three hours. Fall term. Not open to ILR undergraduate students. Prerequisite for non-ILR graduate students: ILR 250 or consent of the instructor. Mr. Galenson or Mr. Windmuller.

An introductory course concerned with the history, structure, institutional

arrangements, and philosophy of the labor relations systems of several countries in advanced stages of industrialization. Countries to be examined include Great Britain, France, Germany, and the Soviet Union.

ILR 531. COMPARATIVE INDUSTRIAL RELATIONS SYSTEMS II

Credit three hours. Spring term. Not open to ILR undergraduate students. Prerequisite for non-ILR graduate students: ILR 250 or consent of the instructor. Mr. Galenson or Mr. Windmuller.

A comparative review of systems of labor relations of countries in the early and intermediate stages of economic development. The course surveys the development of industrial labor forces, the evolution of functions of labor organizations, the role of government in industrial relations, and the emergence of different patterns of labor-management relations. Also covers the history of individual labor relations systems in selected countries of Asia, Africa, the Middle East, and the Western Hemisphere.

ILR 532. SOCIAL ASPECTS OF MODERNIZATION

Credit three hours. Fall term. Open to graduate students who have had two courses in sociology or with the consent of the instructor. Mr. Friedland or Mr. Landsberger.

Analysis of the concepts of change, progress, and development and their ideological content. Indicators and correlates of development and their measurement. Types of theories: endogenous vs. exogenous; monolineal vs. multilinear; convergent vs. parallel vs. divergent, etc. Types of causes: economic, technological, group-status, demographic, individual-motivation. Critical sectors and institutions: political and the problem of revolutions; educational and the problem of mobility; military and the problem of democracy; intellectuals and the problem of ideologies.

ILR 533. INDUSTRIAL RELATIONS IN LATIN AMERICA

Credit three hours. Spring term. Seniors with consent of the instructor. Mr. Morris.

A broad survey of industrial and labor relations in Latin America in their geographic, political, economic, and social settings. A framework for analysis of industrial relations systems in developing societies is presented and applied to the Latin American area. This is followed by discussion of labor codes, organized labor and political parties, management, and labor-management relations. The labor movements and industrial relations systems of five or six of the Latin American republics are then presented as case studies. Comparisons are made with United States experience whenever possible. Finally, the history and present status of hemisphere labor movements are presented and special comment is made on the role of United States labor in these movements.

ILR 534. SOCIAL PROBLEMS OF INDUSTRIALIZATION IN LATIN AMERICA

Credit three hours. Spring term. Mr. Landsberger.

An introduction to the ideologies and values, particularly concerning work; the economic and demographic problems; the major pressure groups (old élites, entrepreneurs, urban and rural working class, middle sectors, military, intellectuals) of Latin America, and to United States-Latin American relations.

ILR 535. POLITICS AND INDUSTRIALIZATION IN EMERGING NATIONS

Credit three hours. Fall term. Prerequisite: ILR 430 or 431, or permission of the instructor. Mr. Ahmad.

The problems and perspectives of industrialization in developing nations are studied with special reference to three related questions: (1) the methods and theories for analyzing societies undergoing fundamental transformation from the agrarian to the industrial way of life; (2) the causes, character, and direction of this revolution of modernization; (3) the role of ideologies, élites, and institutions in the modernizing process.

Selected countries of Asia, Africa, the Middle East, and Latin America are analyzed as alternative models of modernization. Attention is given to the role of labor and industrial organization, and of foreign aid in the process of development.

ILR 630. SEMINAR IN INTERNATIONAL AND COMPARATIVE LABOR PROBLEMS

Credit three hours. Fall term. Prerequisite: ILR 530 or 531 or consent of the instructor. Mr. Windmuller.

Students will examine selected problems in labor relations in the light of international and comparative experience and will be expected to prepare, discuss, and defend individual research papers. Seminar topics will vary from year to year in line with student and faculty interests.

ILR 632. PEASANT MOVEMENTS

Credit three hours. Spring term. Open to graduate students and qualified upperclassmen with consent of the instructor. With rare exceptions, a reading knowledge of at least one relevant foreign language (e.g., German, French, Russian, Spanish, Chinese, Japanese) will be required. Mr. Landsberger or Mr. Ahmad.

After presentation and discussion of the theoretical, conceptual, and definitional problems inherent in the study of the subject, seminar members do research either on a particular movement or organization, or on some selected aspect of the topic, e.g. role of peasant organizations in some recent agrarian reform legislation; place of religion in peasant movements.

ILR 699. DIRECTED STUDIES

Credit to be arranged. Fall and spring terms.

For individual research conducted under the direction of a member of the faculty.

Attention is also called to courses in other ILR departments which may be useful in fulfilling requirements for the minor in international and comparative labor relations: ILR 440, Labor Force Analysis and Manpower Economics, Mr. Aronson; ILR 645, Comparative Economic Systems: Soviet Russia, Mr. Clark; ILR 641, Comparative Social and Labor Legislation, Mr. MacIntyre or Mr. Slavick.

Labor Economics and Income Security

ILR 540. LABOR ECONOMICS

Credit three hours. Fall and spring terms. Required of graduate students majoring or minoring in labor economics and income security and M.I.L.R. candidates. Not normally open to undergraduates. Prerequisite: Economics 103-104 or equivalent. Enrollment limited to twenty students each term. Mr. Aronson and other members of the department.

Economic issues in the employment and compensation of labor. Topics discussed include labor force growth and composition, structure and functioning of labor markets, unemployment, wage theories, wage levels and structures, the economic influence of unions, income distribution, the problem of poverty.

ILR 542. DEVELOPMENT OF WAGE THEORY

Credit three hours. Fall term. Mr. Tolles.

Intensive consideration of the original texts of leading wage theorists from Adam Smith to J. B. Clark. The logic used by each of the authors is analyzed in the light of the varying problems they perceived, the doctrines each of them advocated, and the consequent relevance of each theory to present-day wage-employment problems.

ILR 543. CONTEMPORARY WAGE THEORY

Credit three hours. Spring term. Open to graduate students who have completed ILR 540 or its equivalent. Mr. Ferguson.

Discussion of modern wage and employment theories. Emphasis is placed upon developing the analytical skill of the student, rather than coverage of subject matter.

ILR 544. SOCIAL SECURITY AND PROTECTIVE LABOR LEGISLATION

Credit three hours. Fall term. Required of graduate students majoring or minoring in labor economics and income security, and M.I.L.R. candidates. Mr. Slavick.

The fundamental aspects of employee protection and income security. Emphasis will be placed upon state and federal minimum wage and hour laws, health and safety legislation, employee benefit programs, and the social insurances. The underlying causes of the legislation, as well as the legislative history, the administrative problems and procedures, and the social and economic impact of the legislation will be studied. Efforts of unions, employers, and government in the establishment of labor standards will also be considered.

ILR 546. ECONOMICS OF MANPOWER

Credit three hours. Fall term. Prerequisites: Economics 103-104 or equivalent. Open to qualified undergraduates. Mr. Aronson.

Analysis of the economic, demographic, and socio-cultural factors involved in the development and internal dynamics of an industrial labor force. Comparisons of experience in developed and developing countries used extensively to illuminate such topics as labor force structure, behavior of employment and unemployment, migration and mobility, labor productivity, and manpower policies. Applications to such areas as personnel administration, employment security, and industrial training developed through discussion of student papers.

ILR 641. COMPARATIVE SOCIAL AND LABOR LEGISLATION

Credit three hours. Spring term. Mr. MacIntyre.

The seminar is designed as a comparative study of social and labor legislation in the United States and foreign countries. Emphasis will be given to the economic and social conditions which promote legislation and the effects of the laws on the economy of the nation and the structure of industry. Research reports, lectures, and discussion of legislation under consideration.

146 INSTITUTION MANAGEMENT

ILR 644. CURRENT ISSUES IN ECONOMIC SECURITY

Credit three hours. Fall term. Mr. MacIntyre and Mr. Slavick.

An examination of issues arising in government, union, and management programs providing protection for income and essential welfare services. Economic and administrative problems and interrelationships of private and public plans will be studied. A seminar with readings, research reports, discussions, and occasional lectures.

ILR 645. COMPARATIVE ECONOMIC SYSTEMS: SOVIET RUSSIA

Credit three hours. Fall and spring terms. Open to undergraduates with permission of the instructor. Prerequisite: ILR 445. Mr. Clark.

Preparation and discussion of individual papers on selected topics concerning the Soviet economy.

ILR 647. SEMINAR IN LABOR ECONOMICS

Credit three hours. Spring term. Mr. Tolles.

Preparation, defense, and group discussion of individual papers on selected topics in labor market economics. Each individual topic, subject to approval of the seminar group, will involve an analysis of some specific problem, policy, theory, or relationship as selected by the individual student.

ILR 648, 649. SEMINAR IN LABOR ECONOMICS

Credit three hours each term. Fall and spring terms. (Also listed in the *Announcement of the College of Arts and Sciences* as Economics 641, 642.) Mr. Galenson and Mr. Hildebrand.

Reading and discussion of selected topics in current labor economics in the fields of theory, institutions, and policy.

ILR 699. DIRECTED STUDIES

Credit to be arranged. Fall and spring terms.

For individual research conducted under the direction of a member of the faculty.

INSTITUTION MANAGEMENT

Faculty: Mary K. Bloetjes, Doris Breunig, Kathleen Cutlar.

Field Representative: Mary K. Bloetjes, 170-B Martha Van Rensselaer Hall.

MAJOR SUBJECT

Administrative Dietetics (for M.S.)

MINOR SUBJECT

Administrative Dietetics (for M.S.)
(for Ph.D.)

FIELD AIMS AND OPERATIONS. Graduate study in the Field of Institution Management emphasizes administrative aspects of dietary department operations in hospitals, schools, and similar institutions.

The subject matter deals with the use of dietary department resources in effecting the principles of food science and nutrition as applied to the feeding of individuals and groups.

The graduate student has opportunity to gain an understanding of research methods and the role which research plays in the advancement of administrative dietetics as a field of study.

Persons with advanced degrees in the Field of Institution Management are in demand in many professional areas including dietary department administration, school lunch program direction, and consultation in public health departments. Other professional opportunities are in college teaching and the administration of academic departments in universities.

Students usually combine a major in this Field with a minor in nutrition, foods, personnel administration, or education.

ADMISSION REQUIREMENTS. Applicants are expected to have a broad general background with recent study in biochemistry and nutrition and an above-average academic record. Because of the specialized nature of the program, an undergraduate major in institution management or in food and nutrition is advantageous. Applicants should have had appropriate experience in the field. An outstanding undergraduate record with summer work experience may be considered as the equivalent.

RESEARCH AND STUDY OPPORTUNITIES. Special facilities are available for study and research. Excellent field contacts are maintained with dietary departments in various hospitals, schools and similar institutions.

Thesis research may be undertaken in these areas: management of dietary department resources, process analysis and control of menu item production, and curriculum development.

These theses may be part of the on-going, established research programs of the department.

FINANCIAL AID. One graduate fellowship and three teaching fellowships are currently available to graduate students majoring in the Field of Institution Management.

Courses

500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

Fall and spring terms. Credit and hours to be arranged. For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent, advanced work. Department faculty.

510. SEMINAR IN DIETARY AND FOOD SERVICE ADMINISTRATION

Spring term. Credit one hour. Required of all graduate students in the department. W 3:35. MVR 301. Miss Cutlar.

519. THEORY OF QUANTITY MENU ITEM PRODUCTION AND SERVICE

Fall term. Credit three hours. Graduate section of I.M. 419. Instructor's permission required. Hours to be arranged. MVR 124. Mrs. Bloetjes.

520. ADVANCED FOOD SELECTION AND PURCHASE

Fall term. Credit three hours. Instructor's permission required. Lecture and discussion, T 2:30-4:25, Th 3:35-4:25. MVR 301.

A discussion of sources, standards of quality, grades, care, and storage of various food commodities. Emphasis on the development of purchasing policies and the organization of purchasing procedures.

525. ADVANCED ORGANIZATION AND MANAGEMENT

Spring term. Credit two hours. Instructor's permission required. Hours to be arranged.

Analysis and interpretation of major administrative problems in the operation of a dietary department. Scientific applications of business management and of budgetary and production control principles are studied in relation to quantity meal service.

527. DIETARY DEPARTMENT LAYOUT AND EQUIPMENT SELECTION

Spring term. Credit two hours. Instructor's permission required. W 2:30-4:25. Miss Cutlar.

Focused on the principles of layout planning and equipment selection for hospitals, schools, and other food service facilities; survey of current trends and projected developments affecting planning for the future. A one-day field trip to a restaurant supply firm and typical dietary facilities is planned. Cost, \$5.

528. SCHOOL LUNCH MANAGEMENT

Spring term. Credit two hours. Instructor's permission required. T Th 12:20 and one additional hour to be arranged.

A survey course of the national school lunch program including organizational structure, cost control record keeping, and special management procedures that are concerned with the nutritional aspects of the school lunch operation on the local level. Analysis of monthly reports and reimbursement controls for the Type A lunch and the special milk program will be furnished.

A minimum of two field trips will be required for study of active school lunch programs.

529. SANITARY ASPECTS OF MENU ITEM PREPARATION IN QUANTITY

Spring term. Graduate section of I.M. 329. Credit two hours. Instructor's permission required. T Th 11:15 and additional conferences to be arranged.

540. DATA PROCESSING APPLIED TO DIETARY DEPARTMENT ADMINISTRATION

Spring term. Credit two hours. Prerequisites: I.M. 519 and I.M. 525 or equivalents. T Th 3:35. Mrs. Bloetjes.

Includes the development of data programs for the procurement and issuing of food commodities, the processing of ingredients, and the scheduling of departmental resources as related to automatic data processing.

599. MASTER'S THESIS AND RESEARCH

Fall and spring terms. For graduate students with training and experience satisfactory to the instructor. Hours to be arranged. Mrs. Bloetjes and Miss Cutlar.

INTERNATIONAL AGRICULTURAL DEVELOPMENT

Faculty: Douglas E. Ashford, Frederick T. Bent, Carl W. Boothroyd, Paul A. Buck, Marlin G. Cline, Royal Colle, Howard E. Conklin, Loy V. Crowder, Tom E. Davis, Matthew Drosdoff, Reeshon Feuer, Donald K. Freebairn, William H. Friedland, Frank H. Golay, David B. Hand, Robert F. Holland, William K. Jordan, William C. Kelly, George C. Kent, Richard P. Korf, Frank V. Kosikowski, Douglas J. Lathwell, J. Paul Leagans, Gilbert Levine.

John K. Loosli, Harry A. MacDonald, John G. Matthyse, Robert E. McDowell, John W. Mellor, Philip A. Minges, Robert B. Musgrave, Thomas T. Poleman, Jr., Robert A. Polson, Robert M. Smock, Earl L. Stone, Jr., Robert D. Sweet, George W. Trimberger, Kenneth L. Turk, André G. van Veen, Frank W. Young.

Field Representative: Kenneth L. Turk, 102 Roberts Hall.

MINOR SUBJECT

International Agricultural Development

This Field is intended primarily for students who are preparing for service in foreign countries. The student will seek depth of knowledge by majoring in a biological, physical, or social science. The minor subject draws from several disciplines with the objective of assisting the student in understanding the special conditions and problems of newly developing economies. While this minor is planned specifically for students majoring in one of the Graduate Fields of agriculture, other qualified students are welcome. It is intended for students from other countries as well as for those from the United States. Students will register for seminars, courses, and special problems offered by the several departments and colleges.

A student minoring in this Field is encouraged to gain speaking proficiency in a language likely to prove most useful in this area of service in addition to meeting the language requirements in his major Field.

A student may not minor in this Field if he is minoring in Asian Studies or Latin American Studies, and he may not select a professor for this minor who also serves on the Graduate Faculty in the student's major Field.

Courses

INTERNATIONAL AGRICULTURE

600. SEMINAR: INTERNATIONAL AGRICULTURAL DEVELOPMENT

Fall and spring terms. No credit. Third and fourth Wednesdays 4:30-5:30. Plant Science 404. Professor Turk and staff.

Primarily for graduate students interested in an integrated view of problems related to international agricultural development. Undergraduates with a specialization in International Agriculture are encouraged to attend without registering. The seminar will focus on developing an understanding of the nature and interrelatedness to agricultural development of the social sciences, plant and animal sciences, foods and nutrition, and natural resources.

ECONOMIC ASPECTS OF THE WORLD'S FOOD (Agricultural Economics 560)

SEMINAR ON AGRICULTURAL POLICY (Agricultural Economics 651)

SEMINAR ON THE AGRICULTURAL DEVELOPMENT OF SOUTH ASIA (Agricultural Economics 664)

SEMINAR ON LATIN AMERICAN AGRICULTURAL POLICY (Agricultural Economics 665)

SEMINAR ON THE ECONOMICS OF TROPICAL AGRICULTURE (Agricultural Economics 667)

150 INTERNATIONAL AGRICULTURAL DEVELOPMENT

SEMINAR IN THE ECONOMICS OF AGRICULTURAL DEVELOPMENT
(Agricultural Economics 668)

LOW-COST ROADS (Agricultural Engineering 491)

GEOGRAPHY AND APPRAISAL OF SOILS OF THE TROPICS
(Agronomy 401)

TROPICAL AGRICULTURE (Agronomy 422)

ECONOMIC CROPS OF THE WORLD, THEIR NATURE, PRODUCTION,
PRODUCTS, AND USE (Agronomy 425)

LIVESTOCK PRODUCTION IN THE TROPICS (Animal Science 400)

INTERNATIONAL COMMUNICATION (Communication Arts 651)

INTERNATIONAL NATURE CONSERVANCY (Conservation 511)

PRINCIPLES OF EXTENSION EDUCATION PROGRAMMING AND
TEACHING (Education 524)

THE COMMUNICATION PROCESS (Education 525)

SEMINAR: COMPARATIVE EXTENSION EDUCATION SYSTEMS
(Education 626)

SEMINAR: IMPLEMENTING EXTENSION AND COMMUNITY
DEVELOPMENT PROGRAMS IN DEVELOPING COUNTRIES
(Education 627)

ADVANCED PARASITOLOGY (MEDICAL ENTOMOLOGY)
(Entomology 552)

INTERNATIONAL FOOD DEVELOPMENT (Food Science 403)

PROBLEMS AND PROGRAMS IN INTERNATIONAL NUTRITION
(School of Nutrition 100)

SEMINAR IN WORLD PROBLEMS OF FOOD AND POPULATION
(School of Nutrition 250)

PRINCIPLES OF SEED PRODUCTION, TECHNOLOGY, AND
DISTRIBUTION (Plant Breeding 506)

RURAL SOCIAL SYSTEMS (Rural Sociology 412)

LATIN AMERICAN SOCIETIES IN TRANSITION (Rural Sociology 414)

COMPARATIVE RURAL SOCIETIES (Rural Sociology 420)

CROSS-CULTURAL RESEARCH METHODS (Rural Sociology 516)

APPLICATIONS OF SOCIOLOGY TO DEVELOPMENT PROGRAMS
(Rural Sociology 528)

CONTEMPORARY THEORIES OF SOCIAL CHANGE (Rural Sociology 530)

SPECIAL TOPICS IN PLANT SCIENCE EXTENSION (Vegetable Crops 429)

LATIN AMERICAN STUDIES

Faculty: Charles Ackerman, Frederick B. Agard, Solon Barraclough, Jerome S. Bernstein, Dalai Brenes, Frank Cancian, Tom E. Davis, Martin Dominguez, Matthew Drosdoff, Charles L. Eastlack, Donald K. Freebairn, Rose K. Goldsen, Richard Graham, Eldon Kenworthy, Henry A. Landsberger, Thomas F. Lynch, Robert E. McDowell, James O. Morris, Thomas Poleman, Bernard Rosen, Donald F. Solá, J. Mayone Stycos, Terence S. Turner, William F. Whyte, Frank W. Young.

Field Representative: Tom E. Davis, 205 Rand Hall.

MINOR SUBJECT

Latin American Studies

The requirements for the minor in Latin American Studies include (1) a knowledge of Latin American history, culture, political organization, and problems of economic development, and (2) proficiency in reading and speaking either Spanish or Portuguese. Courses are offered in elementary, intermediate, and advanced Spanish, in elementary and advanced Portuguese, and in the Cuzco dialect of Quechua. Consult the *Announcement of the College of Arts and Sciences* for full listings and course descriptions. Normally a student is expected to conduct field research in Latin America as the basis for his doctoral thesis.

Courses

SEMINAR ON LATIN AMERICAN AGRICULTURAL POLICY

(Agricultural Economics 665)

SEMINAR ON LATIN AMERICAN AGRARIAN REFORM

(Agricultural Economics 666)

SEMINAR ON ECONOMICS OF TROPICAL AGRICULTURE

(Agricultural Economics 667)

ECONOMIC ASPECTS OF AGRICULTURAL DEVELOPMENT

(Agricultural Economics 668)

GEOGRAPHY AND APPRAISAL OF THE SOILS OF THE TROPICS

(Agronomy 401)

LIVESTOCK PRODUCTION IN THE TROPICS (Animal Science 400)

ARCHAEOLOGY OF THE AMERICAS (Anthropology 364)

ETHNOLOGY OF MIDDLE AND SOUTH AMERICA (Anthropology 432)

ANTHROPOLOGY OF THE MIDDLE AMERICAS (Anthropology 531)

ANTHROPOLOGY OF TRIBAL PEOPLES (Anthropology 532)

ECONOMIC HISTORY OF LATIN AMERICA (Economics 325)

SEMINAR: CURRENT ECONOMIC PROBLEMS OF LATIN AMERICA

(Economics 565)

152 LATIN AMERICAN STUDIES

SEMINAR ON POLITICS OF INDUSTRIALIZATION IN LATIN AMERICA (Government 300)

GOVERNMENT AND POLITICS IN LATIN AMERICA (Government 340)

GRADUATE SEMINAR ON GOVERNMENT AND POLITICS IN LATIN AMERICA (Government 540)

HISTORY OF LATIN AMERICA (History 319-320)

MEXICO IN THE TWENTIETH CENTURY (History 487)

BRAZIL SINCE INDEPENDENCE (History 488)

LATIN AMERICA IN THE ERA OF INDEPENDENCE (History 489)

SEMINAR IN LATIN AMERICAN HISTORY (History 687-688)

SOCIAL ASPECTS OF HOUSING IN DEVELOPING COUNTRIES:
GRADUATE SEMINAR (Housing and Design 545-546)

SOCIAL PROBLEMS OF INDUSTRIALIZATION IN LATIN AMERICA
(Industrial and Labor Relations 534)

LABOR RELATIONS IN THE WESTERN HEMISPHERE
(Industrial and Labor Relations 533)

PEASANT MOVEMENTS (Industrial and Labor Relations 632)

CROSS-CULTURAL STUDIES OF WORK AND INSTITUTIONAL
DEVELOPMENT (Industrial and Labor Relations 662)

THE MEXICAN REVOLUTIONARY NOVEL (Spanish 329)

THE MASTERPIECES OF HISPANIC LITERATURE (Spanish 311-312)

HISPANIC NOVEL (Spanish 353)

MODERN SPANISH-AMERICAN NOVEL (Spanish 397-398)

GAUCHO LITERATURE (Spanish 433)

SPANISH-AMERICAN LITERATURE TO 1888 (Spanish 489)

GRADUATE SEMINAR IN SPANISH-AMERICAN LITERATURE
(Spanish 590)

LATIN AMERICAN SOCIETIES IN TRANSITION (Rural Sociology 414)

COMPARATIVE RURAL SOCIETIES (Rural Sociology 420)

POPULATION PROBLEMS: A COMPARATIVE APPROACH
(Sociology 330)

COMPARATIVE SOCIAL STRUCTURES (Sociology 350)

INTERNATIONAL URBANIZATION (Sociology 433)

INTRODUCTION TO DEMOGRAPHY (Sociology 530)

RESEARCH IN DEMOGRAPHY (Sociology 632)

SEMINAR ON SOCIAL STRUCTURE AND SOCIAL CHANGE
(Sociology 657)

SEMINAR IN QUECHUA LINGUISTICS (Quechua 600)

SEMINAR IN LATIN AMERICAN STUDIES (Interdisciplinary 602)

LAW

Faculty: Robert A. Anthony, Herbert W. Briggs, W. David Curtiss, W. Tucker Dean, W. Ray Forrester, Harrop A. Freeman, Kurt L. Hanslowe, Harry G. Henn, William E. Hogan, Milton R. Konvitz, John W. MacDonald, Ian R. Macneil, Lewis W. Morse, Walter E. Oberer, Robert S. Pasley, Norman Penney, David L. Ratner, Ernest F. Roberts, Jr., Rudolf B. Schlesinger, Gray Thoron, Ernest N. Warren.

Visiting Professor Fall term, 1967-68: J. Anthony Weir, Trinity College, Cambridge, England.

Field Representative: Robert A. Anthony, 305 Myron Taylor Hall.

MAJOR SUBJECT

Law

MINOR SUBJECT

Law*

The Master of Laws (LL.M.) and the Doctor of the Science of Law (J.S.D.) degrees are conferred. The former is intended for the student who desires to increase his knowledge of law by work in a specialized field. The latter is intended for the student who desires to become a legal scholar and to pursue original investigations into the function, administration, history, and progress of law.

The minimum residence required is two full semesters, but completion of the LL.M. program will usually require one summer in addition, and the J.S.D. program normally requires three to four semesters. Longer periods may be required by the nature of the candidate's program, which is arranged on an individual basis. A candidate for either degree will ordinarily be expected to concentrate on one legal field and to do a substantial amount of work in at least one other field.

Students who meet the requirements for admission to the Graduate School's Division of Law but who do not wish to become candidates for a degree may, at the discretion of the faculty, be admitted as nondegree candidates to pursue an approved program of advanced legal studies.

ADMISSION REQUIREMENTS. Candidates for the LL.M. or J.S.D. degree are accepted only when, in the judgment of the Law School faculty, the candidate shows exceptional qualifications, the Cornell program offers sufficient advanced courses in the special field of the applicant's interest, and the Law School faculty is in a position to supervise properly the proposed course of study. An applicant for admission for an LL.M. or J.S.D. degree is expected

* For those majoring in other fields (especially in the Social Sciences) with the approval of the Field of Law.

(1) to hold a baccalaureate degree from a college or university of recognized standing; (2) to hold a degree of Bachelor of Laws or a degree of equivalent rank from an approved law school; (3) to have had adequate preparation to enter upon study in the field chosen; and (4) to show promise of an ability, evidenced by his scholastic record or otherwise, to pursue satisfactorily advanced study and research and attain a high level of professional achievement. An applicant for admission for a J.S.D. degree must, in addition, have had professional practice or experience in teaching or advanced research since obtaining his degree of Bachelor of Laws.

An application for admission as a candidate for either degree should state in as much detail as possible the objective for which the applicant wishes to do advanced graduate work and the particular fields of study which he wishes to pursue. It should also contain a brief personal and academic history of the applicant. Other general requirements for admission to the Graduate School should be complied with.

Applicants from countries other than the United States can be considered for candidacy for the LL.M. or J.S.D. degree only if they have completed their basic studies in law in a university abroad with grades of high distinction and have completed all the studies necessary for admission or licensing for the practice of law in their own country, and if their presence at Cornell Law School would, because of special circumstances, be of particular interest to the faculty and students. These requirements apply whether or not the applicant is seeking financial aid. Any applicant for whom English is not a native language must give satisfactory evidence of ability to carry on his studies in English successfully.

No special examinations or tests are required for admission. For further details, see the *Announcement of the Law School*.

LANGUAGE REQUIREMENTS. The Special Committee of a candidate may require demonstration of a reading knowledge of one or more foreign languages if the Committee deems it to be desirable for the proper achievement of the candidate's program, but there is no fixed language requirement applicable generally to graduate work in Law.

EXAMINATION AND THESIS REQUIREMENTS. The only examinations required are those administered in the courses taken for credit by the candidate. These must be passed with a high order of excellence.

A thesis of from 50 to 100 pages (or its reasonable equivalent, e.g., in the form of a report on field research) is required of LL.M. candidates. J.S.D. candidates are required to submit a scholarly dissertation evidencing original research and independent thinking, worthy of publication as a contribution to legal literature.

RESEARCH AND STUDY OPPORTUNITIES. While a candidate may select any topic of law which interests him, special opportunities exist at Cornell in city and regional planning, comparative law, commercial law, copyright and trademark law, government contracts, industrial and labor relations, international legal studies, and water resources law. There are faculty specialists, both in the Law School and in other branches of the University, in all these subjects, as well as in the subjects commonly offered at all American law schools.

While no minor is required for those majoring in the Field of Law, the following subjects serve to illustrate appropriate minors: city and social planning, economics, American government, political theory, comparative government, international law and relations, industrial and labor relations, international agricultural development.

Courses

The courses offered in the Law School are all open to LL.B., LL.M., and J.S.D. candidates. Reference should be made to the *Announcement of the Law School* for detailed course descriptions. See also the descriptions on page 31 of the International Legal Studies Program and on page 43 of the Water Resources Center.

The following course is required of all candidates for the LL.M. or the J.S.D.:

311. JURISPRUDENCE

Two hours. Selected readings. Professor Freeman.

Behind the law is always the legal philosophy or theory which holds the law together and fits it to the ideas, institutions, and concepts of man's culture. The great philosophers' and thinkers' writings are passed through the peculiar filter of the lawyers so that there emerge the theory and philosophy which the law can try to apply. This course first entails an examination of some of these original sources of thought. Secondly, it attempts to see how this thought is embodied in some of the basic concepts of the law (e.g., property, crime). But, most importantly, it seeks to examine jurisprudence in action in a changing society — its function in keeping law current.

LINGUISTICS

Faculty: Frederick B. Agard, Leroy J. Benoit, Nicholas C. Bodman, J. M. Cowan, Charles L. Eastlack, John M. Echols, Gordon H. Fairbanks, James W. Gair, Robert A. Hall, Jr., Baxter Hathaway, Charles F. Hockett, Robert B. Jones, Robert E. Kaske, Gerald B. Kelley, Herbert L. Kufner, Richard L. Leed, Pardee Lowe, Anthony G. Lozano, James W. Marchand, John McCoy, Gordon M. Messing, Mario Saltarelli, Donald F. Solá, John Wolff.

Field Representative: Gordon H. Fairbanks, 223 Morrill Hall.

MAJOR AND MINOR SUBJECT

Linguistics

The following offerings are available at Cornell in the Area of Humanities (for more details, consult the *Announcement of the Graduate School: Humanities*). Specialization in linguistics is offered by several Fields of the Graduate School. A major and minor in English Linguistics are given by English Language and Literature. Romance Studies offers majors and minors in French Linguistics, Italian Linguistics, Romance Linguistics, and Spanish Linguistics. German has a major and minor in Germanic Linguistics. A major and minor in Slavic Linguistics are offered by Slavic Studies. There is a minor in Indo-European Linguistics in the Classics. All of these will be found in that Announcement under the headings for the various Fields.

Minors in Chinese Linguistics, South Asian Linguistics, and Southeast Asian Linguistics are available through the Field of Asian Studies (see page 57 of this Announcement).

ADMISSION REQUIREMENTS. There are no special requirements for admission to study in the Field of Linguistics other than the general requirements for admission to the Graduate School.

LANGUAGE REQUIREMENTS. The candidate for the M.A. is required to demonstrate a reading knowledge of one language other than his native

language. The candidate for a Ph.D. degree is required to demonstrate a reading knowledge of two languages other than his native language, of which at least one must be chosen from English, French, German, and Russian.

EXAMINATIONS. There are three examinations. Candidates take the qualifying examination at the end of the second semester of residence. Students entering with an M.A. in Linguistics from another institution must take the Qualifying examination as soon as possible and not later than the end of their first semester. The Admission to Candidacy Examination for the Ph.D. may be taken no earlier than one year after the qualifying examination and no later than two years after that examination. The Final Examination is on the candidate's thesis. Under this program it is possible for a well-qualified student with a good background in linguistics to complete an M.A. degree in one year and a Ph.D. degree in three years after the B.A. Students entering Cornell without such a background in linguistics should normally expect to take two years for the M.A. and four years for the Ph.D. It is not required that an M.A. degree be earned on the way to a Ph.D. degree.

Specialization Within the Field of Linguistics

The Ph.D. program in linguistics covers the whole range of pure and applied linguistics. The broad scope of the linguistic program can be seen from the major and minor subjects that are possible at Cornell and also from the following specializations of the various faculty members. The list of subjects indicates those Fields that deal specifically with linguistics from which a major subject and minor subjects may be chosen. For any given major subject a student may make a choice of minor subjects not only from the minor subjects listed but from a wide range of other fields such as anthropology, computer science, French literature, German literature, Russian literature, and others.

Since teaching experience is a required preparation for the degree, candidates will do teaching under senior staff supervision.

The specializations of the various faculty members are:

Frederick B. Agard: Romance linguistics, Portuguese, Rumanian.

Leroy James Benoit: Romance linguistics.

Nicholas C. Bodman: Chinese and Sino-Tibetan linguistics.

J M. Cowan: language pedagogy, acoustical phonetics.

Charles L. Eastlack: Portuguese descriptive linguistics, Brazilian indigenous languages.

John M. Echols: Malayo-Polynesian linguistics.

Gordon H. Fairbanks: Indo-European, Indo-Aryan, Armenian.

James W. Gair: general linguistics, South Asian linguistics, Sinhalese.

Robert A. Hall, Jr.: comparative Romance linguistics, history of Italian language and literature, pidgin and creole languages.

Baxter Hathaway: English linguistics.

Charles F. Hockett: anthropological linguistics.

Robert B. Jones: descriptive and comparative linguistics of Southeast Asia.

Robert E. Kaske: English linguistics.

Gerald B. Kelley: Dravidian, computational, general linguistics.

Herbert L. Kufner: Germanic linguistics.

Richard L. Leed: Slavic linguistics, Russian.

Pardee Lowe: Germanic linguistics.

Anthony G. Lozano: Romance linguistics.

James W. Marchand: Germanic linguistics, general linguistics.

John McCoy: Japanese and Chinese linguistics, Chinese dialects.

Gordon M. Messing: Classical linguistics.

Mario Saltarelli: general linguistics, transformational grammar, Romance (Spanish and Italian) linguistics.

Donald F. Solá: Spanish linguistics, Quechua.

John Wolff: Indonesian and Philippine linguistics.

Courses

LINGUISTICS

LINGUISTICS 303. PHONOLOGY

Fall term. Credit four hours. Prerequisite: Linguistics 202. Hours to be arranged. Mr. Bodman.

LINGUISTICS 304. MORPHOLOGY

Spring term. Credit four hours. Prerequisite: Linguistics 202. Hours to be arranged. Mr. Solá.

LINGUISTICS 305. LANGUAGE STRUCTURES

Fall term. Credit four hours. Prerequisite: Linguistics 202. Hours to be arranged. Mr. Agard.

LINGUISTICS 306. SYNTAX

Spring term. Credit four hours. Prerequisite: Linguistics 202. Hours to be arranged. Mr. Kelley.

LINGUISTICS 307. PRACTICAL PHONETICS

Fall term. Credit three hours. Prerequisite: Linguistics 202. Hours to be arranged. Mr. Lowe.

LINGUISTICS 331. INDIA AS A LINGUISTIC AREA

Fall term in alternate years. Credit four hours. Prerequisite: Linguistics 202. Hours to be arranged. Mr. Fairbanks, Mr. Gair, or Mr. Kelley.

LINGUISTICS 403-404. ANALYTIC TECHNIQUES

Throughout the year. Credit four hours a term. Prerequisites: Linguistics 201-202. M F 10:10. Mr. Hockett and staff.

A practical training course in the techniques of observation and analysis of descriptive linguistics.

LINGUISTICS 413. LINGUISTIC DATA PROCESSING

Fall term. Credit two hours. Prerequisites: Linguistics 201 and consent of the instructor. M 3:35-5:30, laboratory hour to be arranged. Mr. Kelley.

LINGUISTICS 432. INDO-ARYAN STRUCTURES

Spring term in alternate years. Credit four hours. Prerequisite: Linguistics 201 or 301. Hours to be arranged. Mr. Fairbanks, Mr. Gair, or Mr. Kelley.

LINGUISTICS 436. DRAVIDIAN STRUCTURES

Spring term in alternate years. Credit four hours. Prerequisite: Linguistics 201. Hours to be arranged. Mr. Kelley.

A synchronic examination of the chronological and grammatical structures of the major languages of the family. Typological studies in Dravidian languages.

LINGUISTICS 441-442. HISTORY OF THE ROMANCE LANGUAGES

Throughout the year in alternate years. Credit four hours a term. T Th 2:30-4. Mr. Agard.

LINGUISTICS 443-444. COMPARATIVE ROMANCE LINGUISTICS

Throughout the year in alternate years. Credit four hours a term. T Th 1:25-3. Mr. Hall.

LINGUISTICS 445. PROBLEMS AND METHODS IN ROMANCE LINGUISTICS

Fall term every third year. Credit four hours. M W F 9:05. Mr. Hall.

LINGUISTICS 446. ROMANCE DIALECTOLOGY

Spring term every third year. Credit four hours. M W F 9:05. Mr. Hall.

LINGUISTICS 449. AREAL TOPICS IN ROMANCE LINGUISTICS

Fall term every third year. Credit four hours. Course may be repeated. Hours to be arranged.

LINGUISTICS 502. COMPARATIVE METHODOLOGY

Spring term in alternate years. Credit four hours. Prerequisites: Linguistics 201-202. Hours to be arranged. Mr. Fairbanks.

A study of the methods and techniques in comparative linguistics; application of these methods to various language families depending on the student's background.

LINGUISTICS 504. HISTORY OF LINGUISTICS

Spring term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged.

LINGUISTICS 505. LITERATURE, LANGUAGE, AND CULTURE

Fall term. Credit four hours. Hours to be arranged. Mr. Hall.

A survey of the relation of literature to its linguistic medium and cultural matrix.

LINGUISTICS 506. PIDGIN AND CREOLE LANGUAGES

Spring term. Credit four hours. Hours to be arranged. Mr. Hall.

A survey of the field of pidginized and creolized languages, with discussion of methodological problems, historical relationships, and reading of selected texts.

LINGUISTICS 507-508. FIELD METHODS AND LINGUISTIC TYPOLOGY

Throughout the year. Credit two or four hours. Prerequisite: Linguistics 404. Hours to be arranged. Mr. Hockett.

LINGUISTICS 511-512. ACOUSTICAL PHONETICS

Throughout the year. Credit four hours a term. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Cowan.

LINGUISTICS 513-514. TRANSFORMATIONAL ANALYSIS

Throughout the year. Credit four hours a term. Hours to be arranged.

An introduction to the theory, literature, and practice.

LINGUISTICS 516. LITERACY

Spring term. Credit four hours. Prerequisite: Linguistics 201. T Th 2:30-3:45. Mr. Solá.

LINGUISTICS 521-522. COMPARATIVE INDO-EUROPEAN LINGUISTICS

Throughout the year in alternate years. Credit four hours a term. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Fairbanks.

A comparative study of the phonology and morphology of the Indo-European languages and of their interrelationships.

LINGUISTICS 530. ELEMENTARY PALI

Either term as needed. Credit three hours. Hours to be arranged. Mr. Fairbanks.

LINGUISTICS 531-532. ELEMENTARY SANSKRIT

Throughout the year in alternate years. Credit three hours a term. Hours to be arranged.

LINGUISTICS 534. COMPARATIVE INDO-ARYAN

Spring term in alternate years. Credit four hours. Prerequisites: Linguistics 202 and 102 or equivalent of an Indo-Aryan language. Hours to be arranged. Mr. Fairbanks.

Comparative reconstruction of Proto-Indo-Aryan phonology and grammar.

LINGUISTICS 536. COMPARATIVE DRAVIDIAN

Spring term in alternate years. Credit four hours. Prerequisites: Linguistics 202 and 102 or equivalent of a Dravidian language. Hours to be arranged. Mr. Kelley.

Comparative reconstruction of Proto-Dravidian phonology and grammar.

LINGUISTICS 537-538. OLD JAVANESE

Throughout the year. Credit four hours a term. Hours to be arranged. Mr. Echols.

LINGUISTICS 541-542. COMPARATIVE GERMANIC LINGUISTICS

Throughout the year in alternate years. Credit four hours a term. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Marchand.

LINGUISTICS 561-562. COMPARATIVE SLAVIC LINGUISTICS

Throughout the year in alternate years. Credit four hours a term. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Foos.

LINGUISTICS 571-572. SEMINAR IN SOUTHEAST ASIAN LINGUISTICS

Throughout the year. Credit four hours a term. Prerequisites: Linguistics 201-202 and consent of the instructor. Hours to be arranged. Mr. Jones.

Descriptive and comparative studies of mainland Southeast Asian languages are dealt with in alternate terms. Topics may be selected in accordance with the interests of the students.

LINGUISTICS 573-574. MALAYO-POLYNESIAN LINGUISTICS

Throughout the year. Credit four hours a term. Prerequisites: Linguistics 201-202 and consent of the instructor. Hours to be arranged. Mr. Wolff.

LINGUISTICS 581-582. SINO-TIBETAN LINGUISTICS

Throughout the year. Credit four hours a term. Prerequisites: Linguistics 201-202 or Chinese 402-403 and consent of the instructor. Hours to be arranged. Mr. Bodman.

Descriptive and comparative studies of Chinese dialects and Tibeto-Burman languages.

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LINGUISTICS 600. SEMINAR

Each term. Admission by permission of the instructor. Hours and credits to be arranged. Various members of the staff.

LINGUISTICS 615-616. DIRECTED RESEARCH

CHINESE LINGUISTICS

CHINESE 402. HISTORY OF THE CHINESE LANGUAGE

Either term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Bodman.

CHINESE 403. LINGUISTIC STRUCTURE OF CHINESE

Either term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Bodman.

CLASSICAL LINGUISTICS

421-422. HISTORICAL GRAMMAR OF GREEK AND LATIN

Throughout the year. Credit four hours a term. Hours to be arranged. Mr. Messing.

Fall term: phonology. Spring term: morphology and syntax. The linguistic analysis of Greek and Latin sounds and forms and their historical development. The course will thus offer the student an insight into the methods of comparative linguistics as applied to Greek and Latin.

ENGLISH LINGUISTICS

ENGLISH 383. THE ENGLISH LANGUAGE

Fall term. Credit four hours. M W F 3:35.

A historical and topical analysis of the development of English, from its beginnings to the present.

ENGLISH 501. READINGS IN OLD ENGLISH

Fall term. Credit four hours.

Elements of Old English grammar and readings in the shorter literary texts.

ENGLISH 503. MIDDLE ENGLISH

Fall term. Credit four hours. Mr. Kaske.

Reading and critical analysis of major works, excluding Chaucer and the drama.

ENGLISH 505. GRAMMATICAL ANALYSIS

Fall term. Credit four hours. Mr. Hathaway.

Study of the structures of English revealed in the transformation of the basic components of predictions.

FRENCH LINGUISTICS

FRENCH 401-402. HISTORY OF THE FRENCH LANGUAGE

Throughout the year in alternate years. Credit four hours a term. Prerequisites: Qualification in French and Linguistics 201. M W F 11:15. Mr. Benoit.

Fall term: detailed study of the structural development of French from the origins to the Old French period. Spring term: selected readings in Old French texts, examination of structural changes from the Old French period to the present.

FRENCH 403. LINGUISTIC STRUCTURE OF FRENCH

Fall term. Credit four hours. Prerequisites: Qualification in French and Linguistics 201. M W F 3:35. Mr. Benoit.

A descriptive analysis of present-day French, with emphasis on its phonetics, phonemics, morphology, and syntax. Required of students seeking certification by New York State.

FRENCH 554. GALLO-ROMANCE DIALECTOLOGY

Spring term in alternate years. Credit four hours. Prerequisites: Linguistics 431-432 or 433-434 or consent of the instructor. T Th 2:30.

FRENCH 555. HISTORICAL PHONOLOGY OF FRENCH

Fall term in alternate years. Credit four hours. Prerequisite: Linguistics 201 or consent of the instructor. T Th 2:30.

FRENCH 558. LINGUISTIC STRUCTURES OF OLD AND MIDDLE FRENCH

Spring term in alternate years. Credit four hours. Prerequisite: French 403 or consent of the instructor. T Th 2:30.

FRENCH 600. SEMINAR IN FRENCH LINGUISTICS

Offered in accordance with student needs. Credit four hours a term. Hours to be arranged. Mr. Hall.

GERMAN LINGUISTICS

GERMAN 401. HISTORY OF THE GERMAN LANGUAGE I

Fall term in alternate years. Credit four hours. Prerequisites: German 204 or consent of the instructor and Linguistics 201 taken previously or concurrently. M W F 11:15. Mr. Kufner.

GERMAN 402. HISTORY OF THE GERMAN LANGUAGE II

Spring term in alternate years. Credit four hours. Prerequisite: German 401 or consent of the instructor. M W F 11:15. Mr. Lowe.

GERMAN 403. LINGUISTIC STRUCTURE OF GERMAN

Fall term. Credit four hours. Prerequisites: German 204 or consent of the instructor and Linguistics 201 taken previously or concurrently. M W F 10:10. Mr. Kufner.

A descriptive analysis of present-day German, with emphasis on its phonetics, phonemics, morphology, and syntax.

GERMAN 405. INTRODUCTION TO MIDDLE HIGH GERMAN

Fall term. Credit four hours. Prerequisite: consent of the instructor. M W F 12:20.

Intended for students with no previous knowledge of Middle High German; will begin with the study of the Middle High German language and then proceed to the reading of selected texts.

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GERMAN 501. INTRODUCTION TO GERMANIC LINGUISTICS

Fall term in alternate years. Credit four hours. W 1:25.

GERMAN 502. GOTHIC

Spring term in alternate years. Credit four hours. W 1:25.

GERMAN 503. OLD SAXON

Fall term in alternate years. Credit four hours. M W F 3:35. Mr. Kufner.

GERMAN 504. OLD HIGH GERMAN

Spring term in alternate years. Credit four hours. M W F 3:35. Mr. Marchand.

GERMAN 509. OLD NORSE I

Fall term. Credit four hours. Hours to be arranged. Mr. Bjarnar.

GERMAN 510. OLD NORSE II

Spring term. Credit four hours. Hours to be arranged. Mr. Bjarnar.

LINGUISTICS 541-542. COMPARATIVE GERMANIC LINGUISTICS

Throughout the year in alternate years. Credit four hours a term. Prerequisite: consent of the instructor. Hours to be arranged.

GERMAN 601. GERMAN DIALECTOLOGY

Fall term. Credit four hours. Hours to be arranged. Mr. Kufner.

GERMAN 602. EARLY NEW HIGH GERMAN

Spring term. Credit four hours. Hours to be arranged.

GERMAN 651. SEMINAR IN GERMANIC LINGUISTICS I

Fall term. Credit four hours. Th 1:25. Mr. Marchand.

GERMAN 652. SEMINAR IN GERMANIC LINGUISTICS II

Spring term. Credit four hours. Th 1:25. Mr. Marchand.

HINDI LINGUISTICS

HINDI 401. HISTORY OF HINDI

Fall term in alternate years. Credit four hours. Prerequisites: Hindi 101-102 or equivalent and Linguistics 202. Hours to be arranged. Mr. Fairbanks.

HINDI 600. SEMINAR IN HINDI LINGUISTICS

Each term. Admission by permission of the instructor. Hours and credit to be arranged. Various members of the staff.

INDONESIAN LINGUISTICS

INDONESIAN 403. LINGUISTIC STRUCTURE OF INDONESIAN

Either term. Credit four hours. Prerequisites: Indonesian 101-102 or the equivalent and Linguistics 201. Hours to be arranged. Mr. Wolff.

LINGUISTICS 573-574. MALAYO-POLYNESIAN LINGUISTICS

Throughout the year. Credit four hours a term. Prerequisites: Linguistics 201-202 and consent of the instructor. Hours to be arranged. Mr. Wolff.

ITALIAN LINGUISTICS

ITALIAN 431. STRUCTURE OF ITALIAN

Fall term in alternate years. Credit four hours. Prerequisite: Qualification in Italian. M W F 9:05. Mr. Hall.

ITALIAN 432. ITALIAN DIALECTOLOGY

Spring term in alternate years. Credit four hours. M W F 9:05. Mr. Hall.

ITALIAN 433. OLD ITALIAN TEXTS

Fall term in alternate years. Credit four hours. Prerequisite: consent of the instructor. M W F 9:05. Mr. Hall.

ITALIAN 434. HISTORY OF THE ITALIAN LANGUAGE

Spring term in alternate years. Credit four hours. Prerequisites: Qualification in Italian and Linguistics 201. M W F 9:05. Mr. Hall.

ITALIAN 600. SEMINAR IN ITALIAN LINGUISTICS

Each term. Credit four hours. Admission by permission of the instructor. Hours to be arranged. Mr. Hall.

QUECHUA LINGUISTICS

QUECHUA 600. SEMINAR IN QUECHUA LINGUISTICS

Either term. Admission by permission of the instructor. Hours and credit to be arranged. Mr. Solá.

RUSSIAN LINGUISTICS

RUSSIAN 401-402. HISTORY OF THE RUSSIAN LANGUAGE

Throughout the year in alternate years. Credit four hours a term. Prerequisites: Qualification in Russian, and Linguistics 201-202. M W F 2:30. Mr. Leed.

The study of the divisions of the Russian language chronologically and geographically; the relationships of the Russian language, the Slavic group, the Indo-European group; the changes in the sounds and forms of the Russian language; vocabulary borrowings from Eastern and Western languages.

RUSSIAN 403. LINGUISTIC STRUCTURE OF RUSSIAN

Fall term in alternate years. Credit four hours. Prerequisites: Qualification in Russian, and Linguistics 201. M W F 2:30. Mr. Leed.

RUSSIAN 501. OLD BULGARIAN

Fall term in alternate years. Credit four hours. Hours to be arranged. Mr. Foos.

RUSSIAN 502. OLD RUSSIAN

Spring term in alternate years. Credit four hours. Hours to be arranged. Mr. Foos.

LINGUISTICS 561-562. COMPARATIVE SLAVIC LINGUISTICS

Throughout the year in alternate years. Credit four hours a term. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Foos.

164 LINGUISTICS

RUSSIAN 600. SEMINAR IN SLAVIC LINGUISTICS

Offered in accordance with student needs. Credit four hours. Hours to be arranged. Mr. Leed, Mr. Olmsted, or Mr. Foos.

RUSSIAN 611. SEMINAR IN RUSSIAN DIALECT GEOGRAPHY

Fall term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Leed.

SPANISH LINGUISTICS

SPANISH 401-402. HISTORY OF THE SPANISH LANGUAGE

Throughout the year in alternate years. Credit four hours a term. Prerequisites: Qualification in Spanish, and Linguistics 201. M W F 2:30. Mr. Saltarelli or Mr. Solá.

Fall term: reading and analysis of progressively older Spanish texts, ending with the earliest monuments of Spanish literature. Spring term: the development of Spanish phonology, grammar, and lexicon from its Latin origins to modern times.

SPANISH 403. THE GRAMMATICAL STRUCTURE OF SPANISH

Fall term. Credit four hours. Prerequisites: Qualification in Spanish, and Linguistics 201. M W F 2:30. Mr. Solá or Mr. Saltarelli.

Descriptive analysis of the morphological and syntactical structure of present-day standard Spanish.

SPANISH 600. SEMINAR IN IBERO-ROMANCE LINGUISTICS

Offered in accordance with student needs. Credit four hours. Hours to be arranged. Mr. Agard or Mr. Saltarelli.

TAGALOG LINGUISTICS

TAGALOG 403. LINGUISTIC STRUCTURE OF TAGALOG

Either term. Credit four hours. Prerequisite: Linguistics 201. Hours to be arranged. Mr. Wolff.

RELATED COURSES

ANTHROPOLOGY 451. ETHNOLINGUISTICS

CHILD DEVELOPMENT 414. SEMINAR IN LANGUAGE DEVELOPMENT

Fall term. Credit three hours. Hours to be arranged. Mr. Levin.

The development of language during infancy and early childhood will be considered. The topics to be covered include theories of acquisition of language, the learning of sounds, grammar, meanings, and pathologies which involve language.

PSYCHOLOGY 313. COGNITIVE PROCESSES

PSYCHOLOGY 416. PSYCHOLOGY OF LANGUAGE

PSYCHOLOGY 517-518. SEMINAR IN LANGUAGE AND THINKING

PSYCHOLOGY

Faculty: Henry A. Alker, Moshe Anisfeld, Harley A. Bernbach, Urie Bronfenbrenner, Richard B. Darlington, William C. Dilger, Eleanor J. Gibson, James J. Gibson, Bruce P. Halpern, Stephen C. Jones, William W. Lambert, Harry Levin, James B. Maas, Robert B. MacLeod, Leo Meltzer, Ulric Neisser, Bernard C. Rosen, Thomas A. Ryan, M. E. P. Seligman, Fred Stollnitz, G. W. Wilcox.

Field Representative: Eleanor J. Gibson, Morrill Hall.

MAJOR AND MINOR SUBJECTS

Comparative Psychology
Differential Psychology
and Psychological Tests
Experimental Psychology
History of Psychology and
Systematic Psychology

Mathematical Psychology
Personality and Social Psychology
Physiological Psychology
Psycholinguistics

(In addition to the above list the following are available only as minor subjects):

General Psychology
Experimental Psychopathology

Clinical Psychology
Industrial Psychology

Applicants for admission in Psychology are required to submit scores for the Graduate Record Examination (Advanced Test in Psychology and Aptitude Test) and for the Miller Analogies Test. An undergraduate major in psychology is desirable, but not required. Records of applicants are judged in terms of performance in mathematics and natural sciences as well as in psychology.

LANGUAGE REQUIREMENT. A reading knowledge of one foreign language (French, German, or Russian) is required for the Ph.D. With the approval of the Special Committee, a requirement in mathematics or computer science may be substituted for the language. For the Field of Psychology the language requirements are satisfied by passing the College Entrance Examination Board Test at the level required for Qualification of Cornell undergraduates.

EXAMINATION REQUIREMENTS. A final examination for the Master's degree combines a defense of the thesis with a general examination on the major and minor subjects.

A written qualifying examination is administered by the Field. This is to be taken by the end of the third term of graduate work at Cornell. Students entering with the Master's degree or equivalent will take the examination earlier. The student's Special Committee may also require a qualifying examination in the major and minor subjects.

The Examination for Admission to Candidacy is normally taken during the third year of graduate work.

All oral examinations are administered by the Special Committee with the addition of one member appointed by the Field Representative.

Research Training and Facilities

RESEARCH FACILITIES. The headquarters of the Department of Psychology are located in the top two floors of Morrill Hall which contains offices, classrooms, and more than thirty research rooms of various sizes and purposes. A small animal laboratory is located in Morrill Hall.

Additional laboratories for graduate and faculty research are housed at the University's Industrial Research Park. Most experimental research using human subjects is carried on in this facility. A large newly equipped shop is also located there.

Research facilities in White Hall provide special rooms for research in problems of perception and cognition and well-equipped one-way observation rooms for experiments in social psychology. Cooperation at the local schools permits field research in the area of developmental psychology.

The former Cornell Behavior Farm has been renamed the Howard S. Liddell Laboratory of Comparative and Physiological Psychology. Modernization and expansion of this research facility for the study of the behavior of laboratory animals were completed recently. Approximately 6,000 square feet of space are available for animal maintenance and research. The facility includes an electrophysiological laboratory, a shop, darkroom, surgery, histology laboratory, and equipment for the maintenance of infant and adult monkeys and most other small laboratory animals. In addition, the location of the laboratory permits the housing of, and the conducting of research with, animals that usually could not be accommodated in traditional centralized facilities.

Areas of Specialization

COMPARATIVE PSYCHOLOGY

W. Dilger, M.E.P. Seligman, and F. Stollnitz.

This subject includes the study of animal behavior and of general principles derived from animal behavior. There are several research facilities at Cornell where students may pursue work on different species. Students selecting this area as a major subject must develop skills in related areas of biology and have a firm understanding of evolutionary theory. Experimental, physiological, and developmental psychology are strongly recommended as minor subjects. Staff research interests include: genetic and environmental determinants of non-learned behavior, development of learning and perception in monkeys, and the responsiveness of organisms to stimuli of apparent ecological importance to a number of species.

DIFFERENTIAL PSYCHOLOGY AND PSYCHOLOGICAL TESTS

H. A. Alker, R. B. Darlington, and G. W. Wilcox.

Training within the Field of Psychology emphasizes psychometric theory—test theory, scaling, and factor analysis—and its applications both in psychological research and in practical settings. Excellent relations are maintained with the Fields of Education and Child Development and Family Relationships, where training in the use of specific tests is offered.

EXPERIMENTAL PSYCHOLOGY

M. Anisfeld, H. A. Bernbach, E. J. Gibson, J. J. Gibson, B. P. Halpern, H. Levin, M. B. Maas, R. B. MacLeod, U. Neisser, T. A. Ryan, M.E.P. Seligman, and F. Stollnitz.

The study of basic processes: sensitivity, perception, learning, action, thinking, emotion, and motivation. Both experimental methods and the facts

and theories derived from experimental observation are stressed. An individual student will usually develop a special interest in one of these basic processes, although he should be familiar with the whole subject. Some of the problems now undergoing investigation are connected with the nature of discrimination, the selection of sensory information, the perceiving of the environment, perceptual learning and development, the transmission of (visual) information, the control of skilled action, the development of concepts, the functions of social stimuli, the relation of motives to perceived values, conditioning, association, retention, and the ability to respond to symbols.

HISTORY AND SYSTEMS OF PSYCHOLOGY

R. B. MacLeod.

Usually elected as a minor subject in conjunction with a major in some other branch of psychology or in the history or philosophy of science. A minor student, in addition to demonstrating competence in the history of psychology and in psychological theory, must have a working knowledge of at least one relevant foreign language and must present a minor thesis based on independent research. Students majoring in the field are expected to have one minor in another branch of psychology and the other minor in the history or philosophy of science, to have a working knowledge of two foreign languages, and to present a dissertation worthy of publication.

MATHEMATICAL PSYCHOLOGY

H. A. Bernbach, G. W. Wilcox.

The major program in mathematical psychology is intended for students with a central interest in the application of mathematics to psychology, primarily in the area of mathematical behavior theory. Such applications take the form of mathematical models of behavior that draw on the full range of modern mathematics, and are appropriate to many content areas within psychology. Students are expected to develop competence in mathematical psychology and in a specific psychological content area. Thus, students will generally take a minor in mathematics, and perform an empirical dissertation rather than a purely methodological one.

The minor program in mathematical psychology is intended to give students the mathematical tools necessary to support their major area of interest. Courses in mathematics will generally be recommended in addition to departmental courses in mathematical behavior theory and methodology.

PERSONALITY AND SOCIAL PSYCHOLOGY

H. A. Alker, U. Bronfenbrenner, S. C. Jones, W. W. Lambert, H. Levin, L. Meltzer, and B. Rosen.

Students may devote varying emphases to personality and to social psychology according to their interests, even concentrating exclusively upon one or the other aspect if they wish. Staff research interests in personality include: aggressive behavior, anxiety and defenses, experimental psychodynamics, personality assessment, and emotional communication. Social psychology is taught jointly by members of the Graduate Fields of Psychology and Sociology. Majors who are admitted via Psychology often choose one of their minors within Sociology. Other relevant minors include anthropology, child devel-

opment, organizational behavior, or statistics. Some current research interests of the faculty in social psychology include: character development in the Soviet Union, nonverbal communication, new approaches to observation methodology, social exchange theory, attitude change, attitude measurement, psycholinguistics, and cross-cultural studies of socialization.

PHYSIOLOGICAL PSYCHOLOGY

B. P. Halpern and F. Stollnitz.

To study this area, the student must be prepared to develop his skill in a variety of biological techniques as well as to become firmly grounded in the experimental analysis of behavior. Students are advised to have one of their minor subjects in physiology, biochemistry, neurobiology and behavior, evolutionary biology, veterinary medicine, or physics. Research interests include brain behavior relationships and sensory psychophysiology.

PSYCHOLINGUISTICS

M. Anisfeld, H. Levin, R. B. MacLeod, U. Neisser.

This area combines aspects of psychology and linguistics in the study of the nature of the psychological representation of language, the processes involved in language acquisition, and its use in cognition and communication. Some of the interests currently pursued in the department are: the effects of linguistic structure on linguistic and nonlinguistic behavior, the generality of language processing mechanisms in other mental operations, the nature of the switching mechanisms in dialect and language choice, and the genesis of language processing devices investigated by means of developmental and comparative methods.

Students majoring in psycholinguistics frequently select general linguistics as a minor. Public Health traineeships in psycholinguistics are available.

CLINICAL PSYCHOLOGY

H. Alker.

This area may be elected only as a minor subject and only when the major is in some other area of Psychology. Courses in procedures in clinical psychology are available as well as courses in abnormal and experimental psychopathology. As there are no practicum facilities available in Ithaca, the aim of this area is to acquaint the student with the area and make him aware of significant research problems rather than to train him to undertake clinical practice.

INDUSTRIAL PSYCHOLOGY

J. B. Maas, T. A. Ryan.

May be elected as a minor subject by students in Psychology or other fields such as industrial and labor relations, business and public administration, engineering. The emphasis is on research methods and results concerning the efficiency of performance, development of skill in complex tasks, effects of environment and methods of work, motivation, job satisfaction, and the evaluation of performance.

EXPERIMENTAL PSYCHOPATHOLOGY

M.E.P. Seligman.

May be elected only as a minor subject. It is concerned primarily with research on animal subjects relating to the effects of stress upon emotional behavior, disruption of performance, and "experimental neurosis," and the relation of these phenomena to human psychopathology. It is recommended primarily for students whose major is in some other area of psychology or a closely related field.

GENERAL PSYCHOLOGY

Staff.

Designed primarily as a minor for students majoring in some other Field, who wish to study some special combination of topics which overlaps with several of the areas listed above.

Financial Aid

In addition to the general fellowships open to all Fields, teaching fellowships and research assistantships are available in the Department of Psychology, and the following fellowships are specifically for students in this Field:

NATIONAL INSTITUTES OF HEALTH TRAINEESHIPS IN PSYCHOLINGUISTICS

Stipend \$1800 to \$2400 plus tuition and fees.

SUSAN LINN SAGE FELLOWSHIP. Stipend \$2000 plus tuition and fees.

JOHN WALLACE DALLENBACH FELLOWSHIP IN EXPERIMENTAL PSYCHOLOGY

Stipend \$2700 plus tuition and fees.

Courses

305. BASIC PROCESSES: PERCEPTION

Fall term. Credit four hours. Prerequisites: Psychology 101 and 201, or 306, or consent of the instructor. Lectures, M W 9:05. Laboratory, Th 2:30-4:25. Mr. Neisser.

An account of the ways in which we register and apprehend the environment. The experimental study of sensory input, of psychophysical correspondence, of space, motion, objects, and events, and the relation of perceiving to everyday behaving and thinking.

306. BASIC PROCESSES: LEARNING

Spring term. Credit four hours. Prerequisites: Psychology 101 or consent of the instructor. Lectures, T Th 9:05. Laboratory, T or Th 2:30-4:25. Mr. Stollnitz.

The fundamental conditions and principles of learning, both animal and human. The basic phenomena of operant conditioning, human verbal and motor learning, discrimination learning, and serial learning will be studied

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experimentally. Traditional and contemporary theories of learning will be reviewed, and selected experimental literature will be discussed with special emphasis upon recent developments in the field.

307. BASIC PROCESSES: MOTIVATION

Fall term. Credit four hours. Prerequisites: Psychology 101 and 201, or 306, or consent of the instructor. Lectures, W F 10:10. Laboratory, T 2:30-4:25. Mr. Alker.

Factors controlling the initiation, direction, and intensity of activity. Methods of research with emphasis upon experimental and statistical controls. Evaluation of evidence on major theories of motivation such as instinct theory, psychoanalysis, and behavioristic drive theory.

309. DEVELOPMENT OF PERCEPTION AND ATTENTION

Spring term. Credit four hours. Prerequisite: Psychology 305. T Th S 10:10. Mrs. Gibson.

Selection and reduction of stimulus information in ontogenetic and phylogenetic development; theories of perceptual learning and experimental methods of testing them.

[311. FEELING AND EMOTION]

Fall term. Credit four hours. Prerequisite: nine hours in psychology or consent of the instructor. Not offered in 1967-68.

313. COGNITIVE PROCESSES

Fall term. Credit four hours. Prerequisites: six hours of psychology or consent of the instructor. M W F 11:15. Mr. Anisfeld.

An examination of the mental processes involved in language learning and use, concept formation, and problem solving; relation between language and thinking. Students are required to carry out a supervised experimental or observational study.

BIO. SCI. 320. NEUROBIOLOGY AND BEHAVIOR

Spring term. Credit three hours. Prerequisites: Biological Sciences 101-102 or 103-104. T Th S 11:15. Messrs. Eisner, Emlen, Gilbert, Halpern, O'Brien, Rosenblatt, and Mrs. Salpeter.

Evolution of behavior, cueing of behavior, social and non-social behavior, neuroanatomy, neurophysiology, neurochemistry, neural networks, memory.

BIO. SCI. 521-522. BRAIN MECHANISMS AND MODELS

Throughout the year. Credit four hours a term. Prerequisites: one year of calculus and one year of biological sciences or psychology, and consent of the instructor. Hours to be arranged. Mr. Rosenblatt with assistance of guest lecturers.

323. PHYSIOLOGICAL PSYCHOLOGY

Fall term. Credit four hours. Prerequisites: Psychology 101 or its equivalent, Psychology 201 or a 300-level laboratory course in psychology, Biological Sciences 101-102 or its equivalent, and Chemistry 103-104 or its equivalent. T Th 9:05 and four hours of laboratory to be arranged. Mr. Halpern.

An examination of relationships between neuroendocrine, neural, metabolic, neuromotor behavior, and behavior.

[324. PSYCHOBIOLOGY]

Spring term. Credit four hours. Prerequisites: a grade of at least B in Psychology 323 and consent of the instructor. Not offered in 1967-68.

325. ABNORMAL PSYCHOLOGY

Fall term. Credit four hours. Prerequisite: nine hours of psychology, or consent of the instructor. T Th S 9:05.

An introduction to the study of disordered behavior. Description of major syndromes, investigations and theories of etiology, and approaches to treatment will be covered in an attempt to introduce the student to major concepts and problems in this area.

[326. COMPARATIVE PSYCHOLOGY]

Spring term. Credit four hours. Prerequisite: Psychology 101, or Biological Sciences 320, or consent of the instructor. T Th 2:30 and laboratory hours to be arranged. Not offered in 1967-68.

Similarities and differences in the behavior of animals ranging from the unicellular forms to man. Psychological and ethological approaches to animal behavior will be discussed.

[335. PSYCHOLOGICAL PROBLEMS OF ADVERTISING AND MARKET RESEARCH]

Spring term. Credit four hours. Prerequisites: Psychology 101, three additional hours of psychology, and consent of the instructor. M 2:30-4:25 plus one hour to be arranged. Mr. Maas. Not offered in 1967-68.

Design of fundamental research in laboratory, field, and survey studies of advertising and consumer behavior. Special attention is given to techniques of questionnaire construction, scaling, sampling, interviewing, and testing. Students work on selected research projects, enabling them to become familiar with collection, processing, and analysis of data.

350. STATISTICS AND RESEARCH DESIGN

Spring term. Credit four hours. Prerequisite: Psychology 101. M W F 11:15. Mr. Darlington.

Devoted about equally to elementary applied statistics—both estimation and hypothesis testing—through one-way analysis of variance, and to general problems in the design and analysis of research projects.

381. SOCIAL PSYCHOLOGY

Either term. Credit four hours. Prerequisites: three hours of psychology and three hours of sociology. M W F 10:10. Fall term: Mr. Lambert. Spring term: instructor to be announced.

Analysis of the history, concepts, methods, and theories used to describe and conceptualize the ways in which people react to one another in social settings and in the laboratory. Students will work individually or as teams on projects, using experimental or other empirical methods. The topics for investigation in lectures and reading will include socialization, attitude change, communication, interpersonal influence, impression formation, leadership, and propaganda.

383. GROUP DYNAMICS

Fall term. Credit four hours. Prerequisites: written consent of instructor and three hours in psychology and three hours in sociology. M W F 11:15. Mr. Hayes.

An analysis of group structures and processes. An essential feature of this course is training in observational methods and techniques of group analysis. Substantial laboratory and field study is required. Original readings are coordinated with the training, research and lectures.

386. THEORIES OF PERSONALITY

Spring term. Credit four hours. Prerequisite: Psychology 101 or consent of the instructor. M W F 12:20. Mr. Lambert.

A critical survey of the concept of personality in literature, the social sciences, and psychology. A number of the modern specialists will be discussed at some length, and recent empirical and experimental work that has grown out of their thought will be analyzed. The empirical relation of personality notions to some philosophical beliefs and literary productions will be considered. The emphasis will be mainly upon "normal" personality.

388. ATTITUDES AND ATTITUDE CHANGE

Spring term. Credit four hours. Prerequisites: three hours of psychology and three hours of sociology. M W F 9:05.

A systematic survey of theory and research on attitudes and attitude change.

PRIMARILY FOR SENIORS AND GRADUATE STUDENTS

401. PSYCHOLOGICAL TESTING I

Fall term. Credit four hours. Prerequisites: six hours in psychology, including 201, or a course in elementary statistics. T Th S 11:15. Mr. Darlington.

Emphasis is on the logical and mathematical problems in the interpretation, evaluation, and construction of tests. A brief introduction to the major personality tests will be included. No training in administering tests.

402. PSYCHOLOGICAL TESTING II

Spring term. Credit four hours. Prerequisite: Psychology 401 or consent of the instructor. T Th S 11:15. Mr. Darlington.

A more advanced treatment of the topics discussed in Psychology 401.

410. INDIVIDUAL DIFFERENCES AND PERSONALITY

Spring term. Credit four hours. Prerequisites: nine hours of psychology or consent of the instructor. Mr. Alker.

Survey of current theory and research in the field of individual differences and personality. A number of lines of investigation will be studied in detail with some emphasis on technique.

[412. RESEARCH DESIGN IN PERSONALITY AND SOCIAL PSYCHOLOGY]

Spring term. Credit four hours. Mr. Darlington. Not offered in 1967-68.

[414. PRACTICUM AND SEMINAR IN PSYCHOLOGICAL TESTING]

Spring term. Credit four hours. Prerequisite: Psychology 401 or 402. All students must have consent of the instructor. Hours to be arranged. Not offered in 1967-68.

416. PSYCHOLOGY OF LANGUAGE

Spring term. Credit four hours. Prerequisite: Psychology 313 or consent of the instructor. M W 2:30-4:25. Mr. Anisfeld.

An advanced treatment of the nature of the human capacity for language, the reading process, social and psychological aspects of bilingualism, speech perception and production. Instruction will be supplemented by experimental exercises.

426. EXPERIMENTAL PSYCHOPATHOLOGY

Spring term. Credit four hours. Prerequisite: Psychology 325 or consent of the instructor. M W 9:05 plus a two-hour laboratory to be arranged. Mr. Seligman.

The application of experimental methods to behavior disorders. A survey of current investigations of etiology and treatment with special emphasis upon a scientific approach to pathology.

427. SENSORY FUNCTION

Fall term. Credit three hours. Prerequisite: Biological Sciences 320 or equivalent. T Th F 8. Mr. Halpern and Mr. Tapper.

Sensory receptors and the central nervous system transformation of afferent activity will be considered in relation to human and animal psychophysical data and to the adaptive significance of behavior. The receptor will be examined in terms of anatomy, biochemistry, biophysics of transduction, and the central nervous system control of peripheral input. Information and signal detection theories will be applied.

428. SENSORY FUNCTION LABORATORY

Spring term. Credit two hours. Prerequisite: Psychology 427. Enrollment limited to fifteen students. Hours to be arranged. Messrs. Halpern and Tapper.

Experiments on the principles of receptor function and afferent neural activity.

BIO. SCI 421. COMPARATIVE VERTEBRATE ETHOLOGY

Fall term. Credit three hours. Prerequisites: Biological Sciences 101-102, or 103-104 and permission of the instructor. T Th 9:05 and laboratory to be arranged. Primarily for graduate students. Mr. Dilger.

461. HUMAN LEARNING AND MEMORY

Fall term. Credit four hours. Prerequisites: Psychology 101, 201, or 306. T Th 10:10. Mr. Bernbach.

462. ADVANCED LEARNING: DISCRIMINATION LEARNING

Fall term. Credit four hours. Prerequisite: Psychology 306 or consent of the instructor. T Th 2:30 and laboratory hours to be arranged. Mr. Stollnitz.

Performance of human and nonhuman subjects on various types of discrimination problems. Discrimination reversal, transfer, and learning-set formation. Laboratory work will stress individual projects.

465. MATHEMATICAL BEHAVIOR THEORY

Spring term. Credit four hours. Prerequisite: one year of calculus. T Th S 10:10. Mr. Wilcox.

The purpose of this course is to give a brief overview of current developments in mathematical psychology and to develop techniques for the application of mathematics to psychological theory. Topics covered include choice behavior, decision theory, psychophysics, memory and learning theory, and information processing models of behavior.

[466. THEORIES OF VISION]

Spring term. Credit four hours. Prerequisite: consent of instructor. Not offered in 1967-68.

471-472. STATISTICAL METHODS IN PSYCHOLOGY

Throughout the year. Credit four hours each term. Prerequisites: Psychology 101 or Child Development 115, 201 or consent of the instructor. Psychology 471 is prerequisite to 472. M W F 1:25. Mr. Wilcox.

An analysis of the methods for treating various kinds of psychological data. Fall term: tests of significance and confidence limits, analysis of variance and correlation. Spring term: complex designs in analysis of variance, analysis of trends and covariance, multiple and curvilinear correlation, introduction to factor analysis.

476. RESEARCH METHODS IN PSYCHOLOGY – EXPERIMENTAL AND LABORATORY

Fall term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Mr. Stollnitz and staff.

Instrumentation for the behavioral sciences.

[477. RESEARCH METHODS IN PSYCHOLOGY – INDUSTRIAL AND FIELD]

Spring term. Credit four hours. Prerequisite: Psychology 333 or consent of the instructor. Not offered in 1967–68.

481. EXPERIMENTAL SOCIAL PSYCHOLOGY

Fall term. Credit four hours. Prerequisites: three hours of psychology and three hours of sociology or anthropology. M W F 2:30. Mr. Jones.

Emphasis is on the empirical study of social psychological phenomena. Students will be introduced to empirical laboratory and field methods used in social psychology. Substantive problems will provide the focus for the demonstration and use of these techniques.

482. EXPERIMENTAL GROUP DYNAMICS

Spring term. Credit four hours. Prerequisites: a course in statistics and a course in social or experimental psychology. W 1:25–3:20 and laboratory time to be arranged. Mr. Meltzer.

A practicum. Supervised research experience in the design, execution, and analysis of experimental research on topics such as group cohesiveness, group pressures, group goals, leadership, group performance, and interpersonal influence and communication. Students will read and discuss experimental studies as well as pertinent theoretical articles.

488. INDIVIDUAL AND SOCIETY IN THE SOVIET UNION

Spring term. Credit four hours. Prerequisite: consent of the instructor. Will be conducted as a seminar. Hours to be arranged. Mr. Bronfenbrenner.

[490. PERSISTING PROBLEMS IN PSYCHOLOGY]

Fall term. Credit four hours. T 2:30–4:25 plus conference hours to be arranged. Not offered in 1967–68.

An examination of the classic problems of psychology in the light of recent research and theory.

496. SUPERVISED STUDY

Either term. Credit two hours. Staff.

497. SUPERVISED STUDY

Either term. Credit four hours. Staff.

GRADUATE COURSES AND SEMINARS

Approximately five graduate courses or seminars will be offered each term, the selection to be determined by the needs of the students. At the same time as the undergraduate preregistration period, the list of courses and seminars

for the following term will be posted, specifying instructors, topics to be covered, and hours of meeting.

501-502. GENERAL SEMINAR FOR BEGINNING GRADUATE STUDENTS

Either term. Credit three hours.

511-512. PERCEPTION

Either term. Credit four hours.

513-514. LEARNING

Either term. Credit four hours.

515-516. MOTIVATION

Either term. Credit four hours.

517-518. LANGUAGE AND THINKING

Either term. Credit four hours.

521-522. PSYCHOBIOLOGY

Either term. Credit four hours.

523-524. PHYSIOLOGICAL PSYCHOLOGY

Either term. Credit four hours.

531-532. HISTORY OF PSYCHOLOGY

Either term. Credit four hours.

541-542. STATISTICAL METHODS

Either term. Credit four hours.

543-544. PSYCHOLOGICAL TESTS

Either term. Credit four hours.

545-546. METHODS OF SOCIAL ANALYSIS

Either term. Credit four hours.

547-548. METHODS OF CHILD STUDY

Either term. Credit four hours.

561-562. HUMAN DEVELOPMENT AND BEHAVIOR

Either term. Credit four hours.

575-576. PERSONALITY

Either term. Credit four hours.

577-578. INDUSTRIAL PSYCHOLOGY

Either term. Credit four hours.

583-584. PROSEMINAR IN SOCIAL PSYCHOLOGY

Either term. Credit four hours. Fall term: T 3:35-5:30. Spring term: hours to be arranged. Mr. Rosen.

Critical analysis of the major current theories and research in social psychology. In the fall, sociological perspectives will be emphasized; in the spring, psychological ones.

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591-592. EDUCATIONAL PSYCHOLOGY

Either term. Credit four hours.

595-596. THE TEACHING OF PSYCHOLOGY

Either term. Credit four hours.

601-602. PRACTICUM IN THE TEACHING OF PSYCHOLOGY

Either term. Supervisor and credit hours to be individually arranged.

611-612. PRACTICUM IN RESEARCH

Either term. Apprenticeship in research with individual staff members. The problem, the supervisor, and credit hours are to be individually arranged.

621-622. THESIS RESEARCH

Either term. Supervisor and credit hours to be individually arranged.

681-682. SEMINAR IN SOCIAL PSYCHOLOGY

Either term. Credit four hours. Fall term: hours to be arranged. Mr. Meltzer. Spring term: hours to be arranged. Mr. Lambert.

Research oriented analysis of selected topics in social psychology.

683. RESEARCH PRACTICUM IN SOCIAL PSYCHOLOGY

Fall term. Credit four hours. Hours to be arranged. Mr. Hayes.

Research on interaction and social structure.

RURAL SOCIOLOGY

Faculty: Frank D. Alexander, Ward W. Bauder, Harold R. Capener, Gordon J. Cummings, Paul R. Eberts, Eugene C. Erickson, William H. Friedland, John Harp, Henry A. Landsberger, Olaf F. Larson, Robert A. Polson, William W. Reeder, Jerry D. Stockdale, Philip Taietz, M. Lee Taylor, William F. Whyte, Robin M. Williams, Jr., Frank W. Young.

Field Representative: John Harp, Warren Hall.

MAJOR AND MINOR SUBJECTS

Methods in Social Research

Organization Dynamics and Community Development.

Rural Sociology

All American and Canadian applicants are requested to submit the scores of the Graduate Record Examination Aptitude Test with their other credentials.

The foreign language requirement for Ph.D. candidates in the Field of Rural Sociology shall be determined by the members of the student's Special Committee.

Graduate study in the Field of Rural Sociology prepares one for college teaching and research; extension work in rural sociology; rural development work in the developing countries; research work with governments, private organizations, and agricultural businesses; and consultation in organization methods and community development. A recent Ford Foundation grant supports an expanded rural sociology program of training and research related to International Agricultural Development.

Many currently active projects focus on comparative analysis of communities and their organization as primary units for research. These include studies of intervillage systems in several countries; of social structure and behavior, functions of voluntary associations, and changes in functional specializations within communities in New York State; and of changes over specified time spans for certain communities in New York State as well as in Peru, Chile, the Philippines, and other selected countries. Other active projects include studies of social action and decision making especially regarding occupational choice, and of adjustments in human and natural resources, manpower, migrants, migration, regional and community development, and modernization in developing countries.

Through broader departmental efforts, these studies form the bases of two data "banks," one on domestic (United States and New York State) units and one on international units, which graduate students are encouraged to use in research papers and theses. These data banks have two major aspects: first, a continuing program of data collection, analysis, and trend studies on both domestic and international levels, and, second, an accumulative formulation of theoretical development models within communities, regions, or countries, with an ultimate view of making the models operational and testing them with the broad-based data from the banks.

Activities of the staff also include participation in various programs located outside the department. For instance, some staff members are active in the South Asia, Southeast Asia, Latin American Area Programs, the Center for International Studies, and New York State Cooperative Extension Service. Action programs of human, natural, and social resources development throughout the state and world are of particular relevance for graduate student training.

The following general areas of study are available to students:

1. Rural Sociology: When offered as a major for the Ph.D., the candidate is expected to acquire a thorough knowledge of (a) rural sociology and research in this field, (b) methodology of social research, (c) sociological theory and its history, and (d) organization dynamics and community development.

When offered for the M.S. degree or as a minor for the Ph.D., a general knowledge of parts (a) and (c) is required.

2. Methods in Social Research (accepted as a minor only at the Ph.D. level): A thorough knowledge of research in the candidate's major field of study is required. For those with a major in rural sociology this minor also requires a general knowledge of (a) research design, (b) observational and data collection techniques, and (c) methods of analysis for hypotheses testing.

3. Organization Dynamics and Community Development: Students may choose this subject as a major for the M.S. degree or as a minor for the Ph.D. When offered as a major, the student is expected to acquire a thorough knowledge of theories, strategies, and techniques of organization and community development as related to a general knowledge of sociological theory. When offered as a minor, the emphasis will include special attention to those aspects of research methods particularly useful for the study of applied problems.

As a general rule students are encouraged to choose their minor field of study outside Rural Sociology. Among those fields most often chosen by students are: general sociology, demography-ecology, agricultural economics, conservation, anthropology, social psychology, rural education, and international agricultural development. In addition, graduate students are encouraged to take related courses in any department of the University.

Courses

R.S. 405. ORGANIZATION DYNAMICS

Spring term. Credit three hours. T Th 10:10-12:05. Warren 31. Mr. Reeder.

A study of organizations and the methods and techniques by which officers, group members, and administrators may increase the effectiveness of organizations. Five categories of organization problems are considered: (1) program problems, (2) leadership problems, (3) membership problems, (4) problems related to meetings, and (5) organizational and public relations problems. Primary emphasis is given to organizations and service agencies which are found in rural society, such as farm bureau, home bureau, Grange, 4-H, churches, schools, fraternal organizations, and civic clubs. Designed to give students experience in using basic organization techniques.

R.S. 411. COMMUNITY AND REGIONAL DEVELOPMENT

Spring term. Credit three hours. M W F 10:10. Warren 31. Mr. Capener and Mr. Reeder.

A consideration of problems involved in helping people and organizations in a community work together to meet their common needs.

There are two major emphases: (1) analysis of communities and regions from the perspective of the community development worker as a change agency, (2) consideration of the problems which confront community development workers and the processes and methods by which they carry out their various community development tasks. Projects in nearby communities provide field laboratory experiences.

R.S. 412. RURAL SOCIAL SYSTEMS

Fall term. Credit three hours. M W F 9:05. Warren 31. Mr. Larson.

Intended as a basic course in the sociology of rural life, using the social system concept as a theoretical framework. Rural society in the United States is used as a case to illustrate the structure and function of major rural social systems in modernized societies. Comparisons are made with Western European countries. The changing relationship with urban and societal systems is discussed. Some consideration is given to the implications of social structure and function for action programs serving rural people. Field trips to rural areas arranged.

R.S. 420. COMPARATIVE RURAL SOCIETIES

Fall term. Credit three hours. M W F 11:15. Warren 231. Mr. Young.

A comparison of the social organization of rural life in selected countries. The emphasis is on the social structure and the value systems of societies undergoing rapid change.

R.S. 421. COMMUNITY STRUCTURE AND CHANGE

Fall term. Credit three hours. M W 1:25-2:40. Warren 260. Mr. Erickson.

An overview of various models in approaching communities as objects of study. Analysis will focus on the methodologies by which power structures are examined, the relation of local community units to extra-community systems, the forms of community cohesion and autonomy, the relation of local power structures to decision making, and the relation of changes in division of labor, urbanization, suburbanization, and values to patterns of community life.

R.S. 424. OCCUPATIONAL STRUCTURE IN INDUSTRIAL AND DEVELOPING COUNTRIES

Fall term. Credit three hours. T Th 2:30. Mr. Taietz.

Cross-national comparisons of occupational differentiation and related issues. Particular attention will be given to the relation of the occupational structure to social stratification, mobility within the structure, and occupational prestige rankings.

R.S. 432. COMMUNITY LEADERSHIP

Spring term. Credit three hours. Lecture, T 9:05. Discussion, W 1:25-3:55. Warren 232. Mr. Cummings.

A study of leadership theories and strategies as applied to community development. The nature of leadership requirements in a political democracy is examined along with implications for leader education in public affairs.

R.S. 437. THE SOCIOLOGY OF AGING

Spring term. Credit three hours. T Th 2:30-3:45. Warren 232. Mr. Taietz.

The theory and research in this growing field will be examined. Programs for the aged in the United States and Western Europe will be evaluated, and the assumptions underlying these programs will be analyzed.

R.S. 443. POLITICS, PLURALISM, AND SOCIAL CONTROL

Fall term. Credit three hours. T Th 11:15-12:30. Warren 232. Mr. Eberts.

Substantive and methodological analysis of issues related to problems in social control and pluralism. Pluralism and control will be viewed in relation to productive, allocative, and staffing processes of society as they affect various occupational categories, different size communities, and institutions primarily responsible for maintaining social order.

R.S. 500. EVALUATION RESEARCH

Fall term. Credit two hours. Registration by permission only. Hours to be arranged. Mr. Alexander.

Evaluation as measurement of induced change resulting from action programs and extension education. Public concern with evaluation. Organizing for evaluation. Kinds and levels of evaluation. Utilizing the findings of evaluation studies and research. The by-products of evaluation. Principal emphasis on methodology and techniques, including review of significant evaluation studies and research. Course includes laboratory and field work.

R.S. 510. SEMINAR ON DECISION MAKING AND SOCIAL ACTION

Fall term. M F 10:10 and a weekly two-hour lab time to be arranged. Mr. Reeder.

An introduction to research and theory on decision making and social action at the graduate level. The lectures for the undergraduate course "Foundations for Decision Making and Social Action," R.S. 210, are used to provide a systematic presentation of the subject and the two-hour weekly lab is used to discuss additional research and theory related to the topics presented.

R.S. 515. RESEARCH DESIGN

Fall term. Credit three hours. T Th 1:25-2:40. Warren 232. Mr. Harp.

An introduction to the methods of social research. Course topics follow the major steps in the design and execution of sociological research from the definition of the problem and formulation of hypotheses to the interpretation

of results and preparation of a final report. Practice exercises are assigned each week utilizing data from departmental projects.

[R.S. 516. CROSS-CULTURAL RESEARCH METHODS]

Spring term. Credit three hours. Prerequisite: R.S. 515 or permission of the instructor. W F 1:25-2:40. Warren 201. Mr. Young. Not offered in 1968-69.

Problems of comparative research using available data such as questionnaire surveys in data banks, institutionalized national social accounts, documents, ethnographic reports and aerial photographs. Special attention given to macro analysis, trend studies, and rapid, low-cost research procedures.

R.S. 522. SOCIAL POWER AND COMMUNITY DECISION MAKING

Spring term. Credit three hours. M W F 9:05. Mr. Stockdale.

A sociological approach to power as an aspect of community life. The importance of social power in community decision making and action programs is considered. The influence of community power structures in instigating and retarding change is analyzed. Recent community power studies are reviewed. The methodology and theoretical approaches of these studies are analyzed.

R.S. 528. APPLICATIONS OF SOCIOLOGY TO DEVELOPMENT PROGRAMS

Spring term. Credit three hours. M F 11:15-12:30. Warren 31. Mr. Polson.

Application of sociological theory and methods to the problems of institutions and agencies concerned with rural development. Special emphasis is placed on programs for agricultural extension education and community development in low-income countries.

R.S. 536. COMPARATIVE SOCIAL STRATIFICATION AND MODERNIZATION

Fall term. Credit three hours. M W F 10:10. Mr. Steeves.

Intended to stimulate (1) critical evaluation of past research; (2) debate of contemporary research issues; and (3) creative approaches to inquiry into determinants and bases of distributive systems. Looking at societies both historically and synchronically classified along continua from traditional to modern, preindustrial to postindustrial, the course will focus on answering the question "Who gets what, when, why, and how?" within these different types of social systems.

R.S. 613. SEMINAR: RURAL SOCIOLOGY

Spring term, in alternate years. Credit three hours. Prerequisite: R.S. 412. Hours to be arranged. Mr. Larson.

A review of the development of rural sociology and of the theoretical points of view represented in systematic works. A review of research literature in selected major subfields of rural sociology. Emphasis is on sociological generalizations and on the integration of theory and research.

R.S. 624. SEMINAR IN SOCIETAL STRESSES

Spring term. Credit three hours. M W 10:10. Mr. Eberts.

Analysis of major theoretical and research problems related to conceptualizing stress areas in society's changing organizational processes. Topics are covered by reports on major classical and contemporary theorists, paying particular attention to their research potentiality using modern analytical techniques on current issues in political economy.

R.S. 630. SEMINAR IN CONTEMPORARY THEORIES OF PLANNED SOCIAL CHANGE

Fall term. Credit three hours. T Th 11:15. Warren 260. Mr. Reeder.

The central focus of this seminar is on contemporary theories and conceptual approaches to planned social change at various levels. Among those which will be considered are theories of; cultural change, sociological change, community and regional change, organization change, personality change, and structural change.

R.S. 635. SEMINAR IN COMPARATIVE INSTITUTIONAL ANALYSIS

Spring term. Credit three hours. T Th 1:25. Mr. Harp.

A comparative analysis of the major theories and research studies of selected institutions in rural and urban settings, both in industrial and agrarian societies.

R.S. 636. SEMINAR IN SOCIAL CHANGE AND DEVELOPMENT

Fall term. Credit three hours. F 1:25-3:20. Mr. Erickson.

Review of selected theories of social change; an analysis of recent social and cultural changes occurring in new nations and developing economies; problems of traditional social structures undergoing modernization; and the social factors in economic growth, changes in caste and class, nation building, education, family, and religion.

R.S. 651. SEMINAR IN OCCUPATIONAL STRUCTURE

Spring term. Credit three hours. T Th 9:05. Mr. Bauder.

A survey of theory and research concerned with the organization of work roles in industrial societies. Special attention will be given to (1) variations in the content and organization of work roles at different levels of the occupational structure and in different segments of the economy, and (2) changes in the meaning of work associated with such factors as automation, professionalization, bureaucratization, increased leisure time, and increased labor force participation of women.

R.S. 652. SEMINAR IN MANPOWER AND WORK ORGANIZATION

Fall term. Credit three hours. Hours to be arranged. Mr. Taylor.

ILR 434. INDUSTRIALIZATION AND SOCIAL CHANGE IN AFRICA

Spring term. Credit three hours. Mr. Friedland.

The process of social change is examined in the context of the African continent. African society in the pre-European era; the initiation of change through contact with Europe, through taxation and the establishment of commercial agriculture. Formation of new social classes: the educated elite, the working class, the cash crop agriculturists. Processes of urbanization and initiation of industry and social consequences thereof. The political revolution and the deepening of Africa's social revolution.

ILR 532. SOCIAL ASPECTS OF MODERNIZATION

Fall term. Credit three hours. Mr. Landsberger or Mr. Friedland.

ILR 634. SEMINAR IN PEASANT MOVEMENTS AND RURAL ORGANIZATION

Spring term. Credit three hours. Mr. Landsberger.

SOC. 541. SOCIAL ORGANIZATION AND CHANGE

Fall term. Credit four hours. T Th 2:30-3:20. Mr. Williams.

ILR 662. CROSS-CULTURAL STUDIES OF WORK AND INSTITUTIONAL DEVELOPMENT

Fall and spring terms. Credit three hours. Prerequisite: permission of instructor. Mr. Whyte.

SOCIOLOGY

Faculty: Charles Ackerman, Allan G. Feldt, Rose K. Goldsen, Donald P. Hayes, Stephen C. Jones, Richard Jung, William W. Lambert, Parker G. Marden, Robert McGinnis, Leo Meltzer, George C. Myers, Bernard C. Rosen, William H. Starbuck, Gordon F. Streib, J. Mayone Stycos, Wayne E. Thompson, William F. Whyte, Robin M. Williams, Jr.

Field Representative: Wayne E. Thompson, McGraw Hall.

MAJOR SUBJECTS

General Sociology†
Demography-Ecology*
Research Methodology*
Social Organization and Change*
Social Psychology*

MINOR SUBJECTS

Demography-Ecology
Research Methodology
Social Organization and Change
Social Psychology

ADMISSION REQUIREMENTS. Candidates for the Master's degree should have an undergraduate degree from a recognized college or university. The required subjects of the Cornell M.A. program or their equivalent are prerequisite to candidacy for the Ph.D. degree in sociology. In addition to a general background in the social sciences, the entering student should have some knowledge of the basic concepts and applications of quantitative analysis. Graduate Record Examination scores are required for admissions consideration.

The prospective student is advised to consult the comprehensive brochure *Sociology at Cornell*, which may be obtained by writing to the Field Representative.

All applications for admission to graduate study in the Field of Sociology and inquiries concerning financial aid should be made directly to the Field Representative, Department of Sociology, McGraw Hall.

LANGUAGE REQUIREMENTS. A candidate for the degree of Ph.D. in Sociology must demonstrate proficiency in one modern language other than his native tongue. A specified level of preparation in mathematics may be substituted for the modern language requirement upon the unanimous approval of the candidate's Special Committee. Any Special Committee may, at its discretion, require knowledge of foreign languages beyond the Field requirement stated above.

The modern language or mathematics requirement for the M.A. candidate shall be determined by his Special Committee.

FIELD REQUIREMENTS. M.A. candidates at Cornell major in general sociology, which covers the four specific subjects of the Field of Sociology: social organization and change, research methodology, demography-ecology, and social psychology; and students must demonstrate competence in each of these areas. Following the recommendations of their Special Committee, students entering Cornell with a Master's degree from other institutions will

† Required as major subject in the Master's degree program.

* May be major subjects only in the Ph.D. program.

be required to make up deficiencies in the subjects specified for the Cornell M.A. degree.

Students in the Ph.D. program may register in general sociology for the early part of their graduate work, but before taking their Admission to Candidacy Examination, they must select a major from one of the four indicated major subjects described below. By the time of the Admission to Candidacy Examination, students in the Ph.D. program are expected to have completed the course equivalent of the Cornell M.A. program.

All students in the Ph.D. program are required to have one year of directed research experience and one year of directed teaching experience during their program of study at Cornell. Exemptions from this requirement will be granted only under the most unusual circumstances. Typically, for the student entering with a B.A., the research practicum would be scheduled in the spring term of the first year of residence, and the teaching practicum would be scheduled for the third year of residence. Scheduling of the practica for students entering with an M.A., while following the same general pattern, might be varied as circumstances require.

Each Master's candidate must take an oral examination during the first term following the completion of his required core program, normally the third term in residence. A written examination may also be required, if the student's Special Committee recommends it. Any M.A. candidate who proposes to apply for Ph.D. candidacy must have selected his Ph.D. Special Committee prior to taking this examination. These Ph.D. Committee members will also attend the Master's examination, which under these circumstances may be combined with a Ph.D. qualifying examination.

It is expected that the Ph.D. degree will normally be completed within two to three years following completion of the M.A. degree by candidates who are in full-time residence. A diagnostic qualifying examination may be scheduled at the option of either the candidate or his Special Committee. In the event that the qualifying examination is held, it should be scheduled no later than the end of the second semester in residence. In very exceptional instances, at the discretion of the Special Committee, the qualifying examination may serve simultaneously as the Admission to Candidacy Examination. Normally, however, the Admission to Candidacy Examination will be scheduled at the end of the fourth semester of graduate work.

Major Subjects and Requirements for the Ph.D. Degree in Sociology

SOCIAL ORGANIZATION AND CHANGE. When offered as a major: (1) a thorough knowledge of theories of and research in social organization and social change; (2) a working knowledge of research methods; (3) a detailed knowledge of two subfields in social organization such as the following: formal organization and bureaucracy, the family, ethnic relations, political sociology, social stratification, public opinion, sociology of religion, sociology of work.

When offered as a minor: a general knowledge of parts (1) and (2) of the above requirement and a working knowledge of one subfield.

SOCIAL PSYCHOLOGY. When offered as a major: (1) a thorough knowledge of social psychological theory and research, with emphasis upon current developments; (2) a working knowledge of the methodology of social psychological research; (3) a working knowledge of psychology, sociology, and relevant aspects of other related disciplines; and (4) detailed knowledge of some specialized aspect of social psychology to be selected by the student.

When offered as a minor: a general knowledge of parts (1) and (2) of the above requirements, as well as a working knowledge of whichever aspects of social psychology are relevant to the Ph.D. dissertation topic.

DEMOGRAPHY-ECOLOGY. When offered as a major: (1) a thorough knowledge of demographic and ecological theory and substantive research; (2) a thorough knowledge of the techniques of demographic and ecological data collection and analysis; (3) a working knowledge of the theory and methods of social organization and change.

When offered as a minor, a general knowledge of the topics specified in (1) and (2) above.

RESEARCH METHODOLOGY. When offered as a major: (1) a detailed knowledge of the logic of science; (2) a general knowledge of research design, data collection techniques, and analytic procedure; (3) a working knowledge of the theory of social organization and change; (4) a concentration of study in one of the areas listed in (1) and (2).

When offered as a minor, requirements (1), (2), and (3).

Research Training Program

Members of the Field sponsor various social research programs and field projects in which graduate students may participate for purposes of research training. Research activities of the staff have included studies in intergroup relations (Messrs. Rosen and Williams), attitudes and values (Mrs. Goldsen, Messrs. Meltzer and Williams), demography (Messrs. Feldt, Marden, Myers, and Stycos), psycho-social development and abnormal communication and decision processes (Mr. Jung), social gerontology (Messrs. Streib and Thompson), small groups (Messrs. Hayes, Lambert, Meltzer, and Rosen), nonverbal communication (Messrs. Hayes and Meltzer), cross-cultural socialization (Messrs. Lambert and Rosen), social systems analysis and theory construction (Messrs. Ackerman, Jung, McGinnis, and Williams), kinship (Messrs. Ackerman and Streib), educational sociology (Mrs. Goldsen, Messrs. Jung and Thompson). Many of these investigations have been done in cross-cultural settings: Brazil (Messrs. Ackerman and Rosen), Latin America (Mrs. Goldsen, Messrs. Myers, Rosen, and Stycos), Ireland (Mr. Streib), and Scandinavian countries (Messrs. Jung, Lambert, Streib, Thompson, and Williams). Staff members also participate closely in teaching and research activities of the Center for International Studies, the South Asia and Southeast Asia Programs, and the Latin American and China area programs.

Courses

In the following list, taken from the 1967-68 offerings, the courses numbered in the 500's or above are principally open to graduate students. Courses numbered in the 400's are open to advanced undergraduate majors as well as graduate students.

All course listings are subject to change, and in any given year, some courses may not be offered. Students should make final checks with the department before registering.

402. SOCIAL THEORY

Spring term. Credit four hours. Prerequisite: consent of the instructor. M 1:25-3:20 and one hour to be arranged.

Survey of selected theories and concepts in contemporary sociology reviewed in historical perspective, in relation to the contributions of other social sciences, and in terms of present-day developments in theory and research. Throughout, emphasis will be placed on trends in contemporary social theory.

420. MATHEMATICAL SOCIOLOGY

Spring term. Credit four hours. Prerequisites: Sociology 101 and one year of college mathematics, or consent of the instructor. Th 1:25-3:20 and one additional hour. Mr. McGinnis.

Elementary mathematics as applied to sociological theory. Both deterministic and probabilistic models are considered. Stochastic probability processes are emphasized in relation to theories of social change.

422. STUDIES IN SOCIOLOGY

Spring term. Credit four hours. W 1:25-3:20 and one additional hour. Mr. Henry.

Emphasis is placed on the methodological assumptions of social measurement and analysis. Latent structure models are considered in detail.

423. ANALYSIS OF QUANTITATIVE DATA

Fall term. Credit four hours. Prerequisite: consent of the instructor. Laboratory period to be arranged. Mrs. Goldsen.

In the first semester, quantitative materials from current studies are analyzed by students. Problems of editing, classifying, and coding data are dealt with in the laboratory sessions. Students are expected to learn how to use IBM unit record equipment in their analyses. Scales, scores, and composite indexes are developed. Students are expected to write their exercises as weekly research reports, which are annotated by the instructor and discussed in class.

424. ANALYSIS OF QUALITATIVE DATA

Spring term. Credit four hours. Prerequisite: consent of the instructor. Laboratory period to be arranged. Mrs. Goldsen.

This is the continuation of Sociology 423. The second semester emphasizes the equivalent problems which arise in analyzing qualitative research data.

433. INTERNATIONAL URBANIZATION

Fall term. Credit four hours. Prerequisite: consent of the instructor. M W F 9:05. Mr. Marden.

An examination and appraisal of the growth and development of urban communities in developing nations. The structure and composition of such communities and their relationship to a regional economy are compared with similar phenomena in the Western world.

434. SOCIOLOGY OF HUMAN FERTILITY

Spring term. Credit four hours. Prerequisite: Sociology 330 or consent of the instructor. Mr. Stycos.

Social and psychological factors affecting human fertility; review of research on programs of fertility control in the United States and abroad.

435. MORTALITY AND MORBIDITY

Fall term. Credit four hours. Prerequisite: Sociology 330 or consent of the instructor. M 1:25-3:20 and one hour to be arranged. Mr. Marden.

The determinants and consequences of these demographic forces will be considered with special attention being paid to trends and differentials. The

role of mortality in the "demographic transition" of both developed and underdeveloped areas will be examined. The demographic, sociological, and epidemiological approaches will be applied to selected problems involving mortality, illness, health, and medical care.

438. HUMAN MIGRATION

Spring term. Credit four hours. Prerequisite: Sociology 330 or consent of the instructor. T Th S 11:15. Mr. Myers.

An analysis of international and internal migration as it affects the social and economic structure of societies and the groups in movement. The major theoretical and methodological investigations will be examined from such varied perspectives as individual motivation and mathematical models of migration.

441. STRUCTURE AND FUNCTIONING OF AMERICAN SOCIETY — I

Fall term. Credit four hours. Prerequisite: Sociology 101 or consent of the instructor. T Th S 9:05. Mr. Williams.

Systematic analysis of the major institutions of kinship, stratification, economic activity, political structure, education, and religion. Special attention is given to values and their interrelations in the modern social order. A survey of the more important types of groups and associations making up a pluralistic nation is included.

442. STRUCTURE AND FUNCTIONING OF AMERICAN SOCIETY — II

Spring term. Credit four hours. Prerequisite: Sociology 441 or consent of the instructor. T Th S 9:05. Mr. Williams.

Primary attention is directed to the study of interrelations of institutions, including analysis of the regulation of economic and political systems. Group cooperation and conflict are surveyed. Analysis of important processes of change in institutions, values, and social organizations.

481. EXPERIMENTAL SOCIAL PSYCHOLOGY

Fall term. Credit four hours. Prerequisites: three hours of psychology and three hours of sociology or anthropology. M W F 2:30–3:20. Mr. Jones.

Emphasis is on the empirical study of social psychological phenomena. Students will be introduced to empirical laboratory and field methods used in social psychology. Substantive problems will provide the focus for the demonstration and use of these techniques.

482. LABORATORY IN GROUP DYNAMICS

Spring term. Credit four hours. Prerequisites: a course in statistics and a course in social or experimental psychology. W 1:25–3:20 and laboratory time to be arranged.

A practicum. Supervised research experience in the design, execution, and analysis of experimental research on topics such as group cohesiveness, group pressure, group goals, leadership, group performance, and interpersonal influence and communication. Students will read and discuss experimental studies as well as pertinent theoretical articles.

488. INDIVIDUAL AND SOCIETY IN THE SOVIET UNION

Spring term. Credit four hours. Prerequisite: consent of the instructor. Hours to be arranged. Will be conducted as a seminar. Mr. Bronfenbrenner.

491. SELECTED TOPICS IN SOCIOLOGY

Either term. Credit two hours. Open only to majors. Hours to be arranged. Staff.

492. SELECTED TOPICS IN SOCIOLOGY

Either term. Credit four hours. Open only to majors. Hours to be arranged. Staff.

497. SOCIAL RELATIONS SEMINAR

Fall term. Credit four hours. Hours to be arranged.

511. THEORY OF CULTURE AND SOCIAL ORGANIZATION

Fall term. Credit four hours. Prerequisite: Sociology 402 or equivalent. Mr. Williams.

Analysis of recent conceptual development in theories of cultural and social systems. Special attention will be given to the work of Talcott Parsons and associates, with comparative study of alternative conceptual schemes.

512. HISTORY OF SOCIOLOGICAL THEORY

Spring term. Credit four hours. Open to majors and graduate students. Th 1:25-3:20 and one hour to be arranged.

522. SURVEY OF SOCIOLOGICAL METHODS

Spring term. Credit four hours. Prerequisites: Sociology 321 and a statistics course or consent of the instructor. F 1:25-3:20 and M 2:30-3:20. Mrs. Goldsen and staff.

A survey of contemporary social science research techniques that emphasize interdisciplinary methodological convergences. Investigators from several disciplines report on research problems that are encountered and techniques that are used to cope with them.

523. FOUNDATIONS OF STATISTICAL ANALYSIS

Fall term. Credit four hours. Prerequisite: Sociology 522 or consent of the instructor. W 3:35-5:30 and one hour to be arranged. Mr. McGinnis.

The logic of social research; sets and relations; measurement; probability models.

524. RESEARCH DESIGN AND STATISTICAL INFERENCE

Spring term. Credit four hours. Prerequisite: Sociology 523 or consent of the instructor. Hours to be arranged. Mr. Henry.

The logic of statistical inference; problems of multivariate analysis; the design of experiments; latent structure and factor analysis.

526. STOCHASTIC PROCESSES IN SOCIOLOGY

Spring term. Credit four hours. Prerequisites: one year of college mathematics and one term of statistics or consent of the instructor. W 3:35-5:30 and one hour to be arranged. Mr. McGinnis.

Finite probability theory is reviewed. Recurrent events, stationary Markov chains, and dynamic Markov processes are evaluated as models of social organization and change.

528. SOCIOLOGICAL APPLICATION OF GAME AND DECISION THEORY

Spring term. Credit four hours. Prerequisites: one year of college mathematics and one term of statistics or consent of instructor. Mr. McGinnis.

A critical review of game and decision theory as applied to problems in sociology.

530. INTRODUCTION TO DEMOGRAPHY

Spring term. Credit four hours. Prerequisites: graduate student status or consent of the instructor. M W F 10:10. Mr. Marden.

A survey of the methods, theories, and problems of contemporary demography. Special attention is directed to the social determinants and consequences of fertility, mortality, and migration.

531. DEMOGRAPHIC THEORY

Fall term. Credit four hours. Open to majors and graduate students. T 1:25-3:20. Mr. Myers.

Deals with theory construction, hypothesis derivation, and the integration of theory and research in demography. Although emphasis is placed on contemporary theories, earlier formulations beginning with Malthus also are examined insofar as they deal with fertility, mortality, migration, and the people-resource question.

535. TECHNIQUES OF DEMOGRAPHIC ANALYSIS

Fall term. Credit four hours. Prerequisite: Sociology 330 or consent of the instructor. T Th S 11:15. Mr. Myers.

Methods of processing and analyzing demographic data. Measures of mortality, fertility, and migration as applied to census and vital statistics data will be analyzed, and the more general applications of demographic techniques to other classes of data illustrated.

536. DEMOGRAPHIC RESEARCH METHODS

Spring term. Credit four hours. Prerequisite: Sociology 330 or consent of the instructor. M W F 11:15.

Research application of basic demographic techniques to selected regions of the world particularly the economically less-developed regions. Attention is directed to field survey techniques, including sampling and questionnaire construction, as well as formal demographic analysis. Students may work on selected research projects for the semester.

541. SOCIAL ORGANIZATION AND CHANGE

Fall term. Credit four hours. T Th 1:25-3:20. Mr. Williams.

An analysis of major problems in theory and research in the general field of social organization and change. The subject will be studied from the standpoint of the nature and size of the social system (small groups, communities, large-scale organizations, societies) and also in terms of the social processes and properties of the system, such as integration, authority, conformity, and deviance.

583-584. PROSEMINAR IN SOCIAL PSYCHOLOGY

Either term. Credit four hours. Fall term, T 2:30-5:30. Mr. Rosen. Spring term, hours to be arranged. Mr. Jones.

Critical analysis of the major current theories and research in social psychology. In the fall, sociological perspectives will be emphasized; in the spring, psychological ones.

632. SEMINAR: CONTEMPORARY RESEARCH IN DEMOGRAPHY

Spring term. Credit four hours. T 3:35-5:30. Mr. Stycos.

Critical analysis of recent research investigations in Latin American demography.

641. SEMINAR: THEORY AND RESEARCH ON THE SOCIOLOGY OF EDUCATION

Fall term. Credit four hours. Hours to be arranged. Mr. Thompson.
Critical examination of topics in the sociology of education.

643. SEMINAR: THEORY AND RESEARCH

Fall term. Credit four hours.

644. SEMINAR: THEORY AND RESEARCH ON THE FAMILY

Spring term. Credit four hours. Hours to be arranged. Mr. Tavuchis.

Selected problems in the sociology of the family: e.g., ethnic family patterns; family and mobility; family and change; the relation between family and other institutions.

654. SEMINAR: THEORY AND RESEARCH ON THE SOCIOLOGY OF RELIGION

Spring term. Credit four hours. W 3:35-5:30. Mr. Streib.

657. SEMINAR: SOCIAL STRUCTURE AND SOCIAL CHANGE

Fall term. Credit four hours. Hours to be arranged. Mr. Rosen.

662. SEMINAR: SOCIAL SYSTEMS ANALYSIS

Spring term. Credit four hours. M 1:25-4:25. Mr. Jung.

Foundations of systems analysis.

663. SEMINAR: SOCIAL SYSTEMS ANALYSIS

Fall term. Credit four hours. M 1:25-4:25. Mr. Jung.

Foundations of social systems analysis.

681-682. SEMINAR IN SOCIAL PSYCHOLOGY

Either term. Credit four hours. Fall term, hours to be arranged. Mr. Meltzer.

Spring term, hours to be arranged. Mr. Lambert.

Research oriented analysis of selected topics in social psychology.

683. RESEARCH PRACTICUM IN SOCIAL PSYCHOLOGY

Fall term. Credit four hours. Hours to be arranged. Mr. Hayes.

Research on interaction and social structure.

691-692. DIRECTED RESEARCH

Either term. Credit to be arranged. Hours to be arranged. Staff.

PLANNING 713. INTRODUCTION TO HUMAN ECOLOGY**STATISTICS**

Faculty: Robert E. Bechhofer, Isadore Blumen, Lawrence D. Brown, Roger Farrell, Walter T. Federer, Harry Kesten, Jack Kiefer, Philip J. McCarthy, Narahari U. Prabhu, Douglas S. Robson, Shayle R. Scarle, Frank L. Spitzer, Bernt P. Stigum, Howard M. Taylor 3d, N. Scott Urquhart, Lionel Weiss, Jacob Wolfowitz.

Field Representative: Isadore Blumen, 360 Ives Hall.

MAJOR SUBJECT

Statistics

MINOR SUBJECTS

Provisions for minoring in statistics are given in the descriptions of the Fields of Operations Research, Industrial and Labor Relations, Mathematics, and Plant Breeding and Biometry contained in the Announcements of the various Areas of the Graduate School.

ADMISSION REQUIREMENTS. Since one of the principal aims of graduate work in the Field of Statistics is that of training individuals who will have a thorough knowledge of the theoretical basis of modern statistical method and will have demonstrated ability to make significant contributions to this theory, applicants should ordinarily have obtained nearly the equivalent of an undergraduate major in mathematics. It is strongly recommended that applicants resident in the United States during the year before entering the Graduate School present scores on the Graduate Record Examination Aptitude Test.

LANGUAGE REQUIREMENT. There is no foreign language requirement for the M.S. degree. A candidate for the Ph.D. degree must demonstrate reading ability in one language besides English, chosen from among French, German, or Russian.

PROGRAM OF STUDY. A student majoring in the Field of Statistics must complete a graduate sequence of courses in mathematical statistics which has been approved by his Special Committee. Other course work required of majors in statistics will be chosen from among the offerings, as listed below, of the members of the Field. A doctoral student in the Field of Statistics ordinarily has two minor subjects but may, in consultation with the chairman of his Special Committee, choose to work in one minor subject. One minor subject will often be in an area of interest to the student in which the methods of statistics find extensive application. A second minor is usually devoted to mathematics, computing, or a similar subject.

PH.D. EXAMINATIONS. In addition to the Admission to Candidacy Examination, which will ordinarily be administered by the student's Special Committee during or at the end of the third year of graduate study, and the Final Examination on the thesis, the student will be given a qualifying examination. This examination will occur shortly after the first year of graduate study. It will serve to determine the ability of the candidate to pursue doctoral studies and to assist the Special Committee in developing a program of study for the candidate.

Teaching and Research Interests of the Faculty

In extremely broad terms, the teaching and research interests of faculty members are in the following general areas: biological applications of probability and statistics (Federer, Robson, Searle, Urquhart); engineering and operations research applications of probability and statistics (Bechhofer, Prabhu, Taylor, Weiss); mathematical theory of probability and statistics (Brown, Farrell, Kesten, Kiefer, Spitzer, Wolfowitz); social science applications of probability and statistics (Blumen, McCarthy, Stigum).

Some of the more specific areas of current interest are: analysis and probability theory (Kesten, Spitzer); design and analysis of experiments (Bechhofer, Federer, Kiefer, Robson, Searle, Urquhart, Wolfowitz); econometrics (Stigum); high speed computing (Searle); mathematical theory of statistics (Farrell, Kiefer, Wolfowitz); multiple decision procedures (Bechhofer); multi-

variate analysis (Blumen, Urquhart); nonparametric statistics (Blumen, Weiss); queuing and inventory theory (Prabhu); sampling theory (McCarthy, Robson); sequential sampling methods (Kiefer, Weiss); statistical control theory (Taylor); statistical genetics (Federer, Robson, Searle).

Courses

Descriptions of the following courses may be found in the Announcements of the various Areas of the Graduate School under the Fields with which they are identified; in those sections reference is also made to several advanced seminars, both formal and informal, the content of which varies from year to year.

Advanced Undergraduate and Master's Level Courses

OPERATIONS RESEARCH

9460. INTRODUCTION TO PROBABILITY THEORY WITH ENGINEERING APPLICATIONS

9470. INTRODUCTION TO STATISTICAL THEORY WITH ENGINEERING APPLICATIONS

9512. STATISTICAL METHODS IN QUALITY AND RELIABILITY CONTROL

9570. INTERMEDIATE ENGINEERING STATISTICS

INDUSTRIAL AND LABOR RELATIONS

310. DESIGN OF SAMPLE SURVEYS

311. STATISTICS II

410. TECHNIQUES OF MULTIVARIATE ANALYSIS

411. STATISTICAL ANALYSIS OF QUALITATIVE DATA

MATHEMATICS

371. BASIC PROBABILITY

472. STATISTICS

PLANT BREEDING AND BIOMETRY

410-411. MATHEMATICAL AND STATISTICAL MODELS IN BIOLOGY

417. MATRIX ALGEBRA IN BIOLOGY AND STATISTICS

510. STATISTICAL METHODS I

511. STATISTICAL METHODS II

Advanced Master's and Doctor's Level Courses

OPERATIONS RESEARCH

9560. APPLIED STOCHASTIC PROCESSES

9561. QUEUING THEORY

9564. STATISTICAL ASPECTS OF RELIABILITY ANALYSIS

9571. ADVANCED INDUSTRIAL AND ENGINEERING STATISTICS

9572. STATISTICAL DECISION THEORY

9573. STATISTICAL MULTIPLE DECISION PROCEDURES

INDUSTRIAL AND LABOR RELATIONS

610. ECONOMIC AND SOCIAL STATISTICS

614. THEORY OF SAMPLING

MATHEMATICS

571. PROBABILITY

572. STATISTICAL INFERENCE

574. ADVANCED PROBABILITY

575. INFORMATION THEORY

673. ANALYSIS OF VARIANCE

674. DESIGN OF EXPERIMENTS

675. STATISTICAL ESTIMATION

676. DECISION FUNCTIONS

677-678. STOCHASTIC PROCESSES

PLANT BREEDING AND BIOMETRY

513. DESIGN OF EXPERIMENTS I

514. DESIGN OF EXPERIMENTS II

517. LINEAR ESTIMATION AND TESTS OF HYPOTHESIS

518. SPECIAL TOPICS IN SEQUENTIAL SAMPLING, BIOASSAY, NONPARAMETRIC STATISTICS, ETC.

519. STATISTICAL GENETICS

TEXTILES AND CLOTHING

Faculty: Charlotte W. Baumgartner, Rachel Dardis, Bertha A. Lewis, Elsie F. McMurry, Edward R. Ostrander, Mary Purchase, Betty F. Smith, Evelyn E. Stout, M. Vivian White.

Field Representative: Betty F. Smith, 240 Martha Van Rensselaer Hall.

MAJOR SUBJECTS

(M.S.) Textiles

(M.S. or M.A.) Textiles and Clothing

MINOR SUBJECTS

Textiles

Textiles and Clothing

Qualified doctoral candidates wishing to do advanced work in the Field of Textiles and Clothing may major in a related Field and do thesis research in the area of Textiles and Clothing. Doctoral candidates may minor in this Field.

ADMISSION REQUIREMENTS. Admission to graduate work is based primarily on evidence of the student's ability to do advanced work. A general or specialized major in home economics is acceptable as background for study in this Field. In addition to courses in textiles and clothing, students should have preparation in chemistry (general and organic), economics, mathematics, physics, and psychology or sociology. Students with B.S. degrees in relevant disciplines, e.g., chemistry, economics, psychology, and fine arts, are also encouraged to undertake graduate work in the Field of Textiles and Clothing. Deficiency in the recommended background subjects does not preclude admission but may increase the time necessary to earn a degree. All applicants are required to submit scores of the Graduate Record Examination Aptitude Test.

RESEARCH AND STUDY OPPORTUNITIES. Degree programs are individually planned to fit the needs and objectives of the student. Excellent facilities are available for research in all areas of the Field. Ongoing research projects allow for student participation. A brochure describing the facilities and research activities is available from the Field Representative.

Since the subject matter in Textiles and Clothing is based on several disciplines, appropriate minor areas include anthropology, business administration, chemistry, economics, fine arts, history, industrial and labor relations, psychology, sociology and statistics.

A number of teaching fellowships and research assistantships are available in the Department of Textiles and Clothing. The Herbert and Lillian M. Powell Fellowship is given in alternate years and will be available for 1969-70. Students in the Field of Textiles and Clothing are given preference for this fellowship.

Special Interests of the Faculty

TEXTILES

1. Textile chemistry: Professors Smith and Lewis
2. Science and technology of textiles: Professor White
3. Physical aspects of textile fibers and fabrics: Professor Stout
4. Soiling of textile fibers and fabrics: Professor Purchase

TEXTILE ECONOMICS AND MARKETING

1. Textile economics: Professors Baumgartner and Dardis
2. Textile marketing: Professors Dardis and Ostrander
3. Psychological aspects of textiles and clothing: Professor Ostrander

HISTORY OF COSTUME AND APPAREL DESIGN

1. History of costume: Professor McMurry
2. Apparel design: Professor McMurry

Courses

431. HISTORY OF COSTUME

Fall term. Credit three hours. Prerequisite: History of Art 201. M W 2:30-4:25. MVR 121. Mrs. McMurry.

A comparative study of dress of selected cultures from ancient times to the end of the fifteenth century, stressing (1) the relationship of social, economic, and political factors affecting dress and the mores as expressed through dress, and (2) the contribution of ancient cultures to the apparel arts of the Western world.

Illustrated lectures; readings; term problems; direct study of the basic forms of dress as exemplified in the Costume Collection.

A two-day trip to New York to study museum collections is arranged when feasible. Students are responsible for field trip expenses.

432. HISTORY OF COSTUME

Spring term. Credit three hours. Prerequisites: History of Art 201-202. M W 2:30-4:25. MVR 117. Mrs. McMurry.

A comparative study of dress of selected cultures from the sixteenth century through the first half of the twentieth century. Emphasis will be placed upon the development of the apparel arts of Western civilization and the factors which brought about change and development.

Illustrated lectures, readings, and term problems designed to bring students into direct contact with the Costume Collection and other primary sources such as the Regional History Collection.

433. ECONOMICS OF THE TEXTILE AND APPAREL INDUSTRIES

Fall term. Credit three hours. Prerequisites: T.C. 170 or permission of instructor, and Economics 103 and 104 or equivalent. M W F 11:15-12:05. MVR 121. Miss Dardis.

Trends in the production and consumption of textiles and apparel; economic analysis of the textile and apparel industries; factors affecting changes in output, price, location, and market structure.

475. TEXTILES: CHARACTERIZATION AND EVALUATION

Fall term. Credit three hours. Prerequisite: T.C. 170. W F 12:20-2:15 and two unscheduled hours of independent laboratory work weekly. Limited to 16 students. MVR 278, 280, 277A. Miss Stout.

A series of cooperative class problems involving a wide range of fibers and fabrics, testing procedures, and laboratory equipment. Research methods of analyzing and interpreting data and of presenting reports. Laboratory work

includes the use of various testing instruments and standard and tentative test methods of both the American Society for Testing and Materials and the American Association of Textile Chemists and Colorists, as well as devised experimental methods. United States of America Standards Institute Minimum Requirements for Textile End-Use Performance are used where appropriate.

476. TEXTILE CHEMISTRY

Fall term. Credit four hours. Prerequisites: T.C. 170 and one year of organic chemistry (Chemistry 357-358 preferred) or permission of instructor. Lecture, T Th 8-8:50. MVR 301. Laboratory, T Th 10:10-12:05. MVR 234. Miss Smith.

An introduction to the chemistry of the major classes of natural and man-made fibers, including their structure, properties, and reactions. Laboratory work will include the qualitative identification of textile fibers, and a consideration of chemical damage to fabrics, finishes, and dyes.

477. STRUCTURE AND PROPERTIES OF TEXTILE FIBERS

Spring term. Credit three hours. Prerequisites: T.C. 170 and 476, Physics 101-102 or 207-208, and organic chemistry. T Th 2:35-4:25. MVR 121. Miss White.

Physical and chemical properties of textile fibers are considered in relation to current ideas of fiber structure. Emphasis is placed on fiber properties which contribute to ease of care, serviceability, comfort, and aesthetic characteristics of the finished textile.

478. LABORATORY: STRUCTURE AND PROPERTIES OF TEXTILE FIBERS

Spring term. Credit two hours. Prerequisite: T.C. 477. Registration by permission of instructor. Time to be arranged. MVR 234. Miss White.

Laboratory investigation of structure and properties of textile fibers.

500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS

Fall and spring terms. Credit and hours to be arranged. For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent, advanced work. Department faculty.

530. SEMINAR: CLOTHING AS RELATED TO HUMAN BEHAVIOR

Spring term. Credit three hours. T Th 1:25-2:15. MVR 301. Mr. Ostrander.

A critical review of literature concerned with social-psychological aspects of clothing, with emphasis on methods of approach. The formulation and planning of a problem in this field.

533. SEMINAR: ECONOMICS OF THE TEXTILE AND APPAREL INDUSTRIES

Spring term. Credit one hour. Prerequisite: T.C. 433. Time and room to be arranged. Miss Dardis.

Current problems of the textile and apparel industries; textile trade fluctuations; international trade in textiles and textile products.

551. APPAREL DESIGN: DESIGNERS' PROBLEMS

Spring term. Credit three hours. Prerequisite: T.C. 350; T.C. 333 desirable. May not parallel T.C. 555. T Th 2:30-4:25. MVR 213.

Methods of developing apparel design ideas adaptable to present-day mass production methods. Development of designs for various levels of production costs and various categories of apparel. Studio work involves independent

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investigation on the part of the student. Lectures, discussions, field trips. Students are responsible for field trip expenses.

[555. DESIGN AND COLOR IN APPAREL: ADVANCED COURSE]

Spring term. Credit three hours. Prerequisite: T.C. 350, Housing and Design 200, or Drawing 111 or Art 340a. T Th 2:30-4:25. Approximately two additional hours of laboratory work required. MVR 216. Mrs. McMurry. Alternate-year course; not offered in 1968-69.

Selected problems in designing apparel will provide opportunity to solve the interrelated problems in the development of a design set by such factors as the materials and technical procedures.

570. SEMINAR: STRUCTURE AND PROPERTIES OF TEXTILE MATERIALS

Fall term. Credit two hours. Registration by permission of instructor. T 2:30-4:25. MVR 234. Miss White.

Critical review of research literature. Consideration of current theories regarding the relationships of yarn and fabric structures, finish, and conditions of service to the performance of textile materials.

575. TEXTILES: CHARACTERIZATION AND EVALUATION

Spring term. Credit three hours. Prerequisite: T.C. 475; statistics, and T.C. 476 and 477 recommended. W F 12:20-2:15 and two unscheduled hours of independent work weekly. MVR 277A, 278, 280. Miss Stout.

A series of cooperative class problems involving various fibers in fabric form, testing procedures, and specialized equipment. Physical, chemical, and microscopical procedures are combined in studying certain problems.

576. ADVANCED TEXTILE CHEMISTRY

Spring term. Credit four hours. Prerequisites: T.C. 475 and 476 and quantitative analysis or permission of instructor. Lecture, T Th 8. MVR 301. Laboratory, T Th 10:10-12:05. MVR 234. Miss Smith.

An examination of the molecular structure, properties, and reactions of the major classes of natural and man-made fibers. Laboratory work will include a study of the molecular structure of a cellulosic, a protein, and a manmade fiber and the quantitative analysis of textile fibers and materials.

578. SEMINAR IN TEXTILES

Spring term. Credit one hour. Time to be arranged. MVR 278. Misses Smith, Stout, and White.

Critical discussion of research literature. Class activities may include panel discussions, field trips, reports by students, faculty, or others with special knowledge in certain areas of the textile field.

599. THESIS AND RESEARCH

Fall and spring terms. Credit and hours to be arranged. Registration with permission of the instructor. Department faculty.

608. SEMINAR IN TEXTILES AND CLOTHING

Fall and spring terms. No credit. M 4:25. MVR 339. Department faculty.

Consideration of research areas and methods in textiles and clothing, and of interdisciplinary relationships between textiles and clothing and other fields. Presentation of student thesis plans and reports, student-faculty discussions, and outside speakers.

ADVANCED PROFESSIONAL DEGREES

Advanced professional degrees are designed as preparation and training for a special profession.* The admissions, requirements, and curricula for such degrees, as approved by the Graduate Faculty, are announced by the faculty of a professional school or college, which, for this purpose, acts as a Division of the Graduate Faculty. Degrees are awarded upon recommendation of the Division to the Graduate Faculty. Detailed information regarding admission or academic requirements for any professional degree is included in the Announcement of the separate school or college in which the degree is offered. Inquiries addressed to the Graduate School will be forwarded to the proper official. The professional degrees listed below are approved by the Graduate Faculty.

ARCHITECTURE, FINE ARTS, REGIONAL PLANNING

The following three degrees are administered by the Division of Architecture and Fine Arts of the Graduate School. Inquiries should be addressed to the listed professor.

For more detailed information on these degrees, as well as those in architectural structures, architectural history, and art, see also the *Announcement of the Graduate School: Social Sciences*.

MASTER OF ARCHITECTURE (M.Arch.). Training in urban design. Only graduates of a five-year professional program in architecture or graduates of a program in city planning or landscape architecture are admitted as candidates. (Professor Colin Rowe.)

MASTER OF FINE ARTS (M.F.A.). Advanced training in the practice of painting, sculpture, or graphic arts. (Professor James O. Mahoney.)

MASTER OF REGIONAL PLANNING (M.R.P.). Training for a professional career in the field of city planning or regional planning. (Professor Kermit C. Parsons.)

EDUCATION

Two professional degrees are administered by the Field of Education of the Graduate School. The programs leading to each of the degrees in-

* The following are advanced degrees which are also first degrees of a school or college and therefore are not subject to the jurisdiction of the Graduate Faculty. For information regarding them, address the school or college indicated.

Bachelor of Laws	Law School
Master of Engineering (Aerospace)	Graduate School of Aerospace Engineering
Master of Business Administration	}Graduate School of Business and Public Administration
Master of Public Administration	
Doctor of Medicine	Medical College, New York City
Doctor of Veterinary Medicine	Veterinary College

clude courses, seminars, projects, and investigations which will develop the student's ability to perform acceptably the professional duties required of the several types of educational specialization.

MASTER OF ARTS IN TEACHING (M.A. in T.). This program is designed for and limited to those preparing for teaching in elementary and secondary schools. The student and his Special Committee will select those courses and seminars in his teaching specialty and in Education which are deemed most appropriate for developing competence as a teacher. The student will be required to demonstrate his or her teaching skill in a supervised field experience. Completion of a twelve-month program, or two and two-fifths residence units is required.

DOCTOR OF EDUCATION (Ed.D.). The program for this degree is designed to prepare the candidate within a broad cultural context for positions of professional leadership in education. The program of studies must include advanced work in each of the following: educational psychology, history or philosophy of education, educational measurement and statistics, and research in education. At least fifteen hours of credit must be earned in courses other than those in professional education. A minimum of sixty-five credit hours beyond the Bachelor's degree is required, of which thirty-five hours should be completed beyond the Master's degree or its equivalent. A candidate is required to complete a minimum of five residence units beyond the Bachelor's degree and a year of directed field experience.

Professional Teaching

MASTER OF SCIENCE FOR TEACHERS (M.S.T.). This is a co-ordinated program of training in the biological and physical sciences for prospective and practicing teachers. Each degree candidate must satisfy a broad core program in mathematics and science and complete advanced work in his selected Field of study. This degree is administered by the Division of Professional Teaching of the Graduate School. Detailed information may be obtained from the Graduate School Office, Sage Graduate Center.

ENGINEERING

The degree of Master of Engineering is administered by the Engineering Division of the Graduate School. Specially oriented graduate programs of study are in the areas of agricultural, chemical, civil, electrical, industrial, materials, mechanical, and nuclear engineering, and in engineering physics. The following titles designate the Professional Masters' degrees offered in engineering: Master of Engineering (Agricultural), Master of Engineering (Chemical), Master of Engineering (Civil), Master of Engineering (Electrical), Master of Engineering (Engineering Physics), Master of Engineering (Industrial), Master of Engineering (Materials), Master of Engineering (Mechanical), Master of Engineering (Nuclear).

The Graduate School of Aerospace Engineering administers the Master of Engineering (Aerospace) degree program.

The general requirements for the degrees listed above are:

1. A minimum of thirty credit hours of advanced technical course work in the specific field or in related subjects.
2. A minimum of three credit hours (included in the above) of engineering design experience involving individual effort and formal report.
3. A minimum grade point average of 2.5 and a minimum final grade of C minus for all courses counting toward the degree.

There are no residence requirements, although all course work must, in general, be completed under Cornell University staff instruction. The degree requirements must normally be completed within a period of four calendar years.

Graduates of Cornell University who hold Bachelor of Engineering degrees may be granted up to fifteen hours credit for advanced courses taken during their fifth undergraduate year, provided they enter the Master of Engineering program not later than the fall term following the sixth anniversary of their receiving the Bachelor of Engineering degree.

The *Announcement of the College of Engineering* should be consulted for further details on the professional Masters' programs in the various fields.

INDUSTRIAL AND LABOR RELATIONS

MASTER OF INDUSTRIAL AND LABOR RELATIONS (M.I.L.R.).

The program leading to this degree provides a basic course of graduate study for those with professional interests in industrial and labor relations and further provides limited opportunities for specialized professional study where broad competence has been established. This degree is administered by the Division of Industrial and Labor Relations of the Graduate School. More information may be obtained by writing to the School of Industrial and Labor Relations, Ives Hall.

LAW

The following two degrees are administered by the Division of Law of the Graduate School. The *Announcement of the Law School* should be consulted for a complete description of the program and requirements.

MASTER OF LAWS (LL.M.). This degree is intended primarily for the student who desires to increase his knowledge of the law by working in a specialized field.

DOCTOR OF THE SCIENCE OF LAW (J.S.D.). This degree is intended primarily for the student who desires to become a proficient scholar by original investigation into the functions, administration, history, and progress of law.

MUSIC

DOCTOR OF MUSICAL ARTS (A.Mus.D.). This degree is appropriate for mature composers who seek further professional training as well as knowledge of the other arts and humanities, both to enrich their creative perspectives and to prepare them for the teaching of composition and theory at the university level. It is administered by the Department of Music, acting as a Division of the Graduate School for this purpose.

NUTRITIONAL AND FOOD SCIENCE

The following two degrees are administered by the Division of Nutrition of the Graduate School. More information may be obtained by writing to the Graduate School of Nutrition, Savage Hall.

MASTER OF NUTRITIONAL SCIENCE (M.N.S.). This program emphasizes fundamental study in the basic sciences that can lead to specialization in such areas as nutritional biochemistry, public health, nutrition, human and clinical nutrition, and international nutrition. In addition, for candidates interested in the biological sciences, the program serves as a valuable preliminary for more advanced graduate study.

MASTER OF FOOD SCIENCE (M.F.S.). The fundamental sciences, chemistry, biochemistry, and bacteriology, that are involved in food processing and utilization, are emphasized. Electives are available to meet individual needs in engineering, economics, marketing, business administration, and international programs. The specialized training serves as a preparation for technical work as related to the food industry or for more advanced graduate study.

VETERINARY MEDICINE

DOCTOR OF SCIENCE IN VETERINARY MEDICINE (D.Sc. in V.M.). This degree is characterized by a professional rather than a general research objective, and it is designed especially for experienced persons in the basic and clinical sciences who need more specific, advanced, scientific, and professional knowledge in order to equip themselves for careers in teaching and research. This degree is administered by the Division of Veterinary Medicine of the Graduate School.

The University expects that all graduate students at Cornell University shall, at all times, act with a mature and morally responsible attitude, recognizing the basic rules of society and the common rights of others.

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I certify that the statements made by me above are correct and complete.

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